

Year 8

Numeracy Home Learning



Name:

Teacher:

Instructions

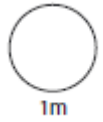
- You should spend 20mins for 10 days practicing for your Numeracy tests. $\sqrt{\quad}$ = Square root
- Your parents/ guardians have been given an answer sheet so that they can check your work.
- Colour the boxes red or green depending on whether you got the question right or wrong.
- Use the self-assessment to focus on the things you find difficult to do, use MyMaths or help from someone at home to develop your understanding of these skills.

Day		1	2	3	4	5	6	7	8	9	10
1	Addition and Subtraction										
2	Multiplication and Division										
3	The four operations on decimals										
4	BIDMAS										
5	Squares, Cubes, Roots and Reciprocals										
6	Calculate FDPs of amounts										
7	Equivalent FDP										
8	Ratio and proportion										
9	Simplify fractions										
10	Round to significant figures										
11	Estimate answers										
12	Calculations involving savings or VAT										
13	Convert units										
14	Time zones										
15	Convert temperatures										
16	Area										
17	Volume										
18	Presenting and interpreting data data										
19	Averages and Range										
20	Bearings and grid reference										
List 3 things you struggled with over days 1-5 :		List 3 things you struggled with over days 6-10:									
1.		1.									
2.		2.									
3.		3.									

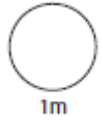
HL 1

1

$$218 + \boxed{} = 720$$

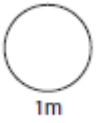


$$435 + 129 =$$

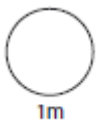


2

a) Work out 374×23

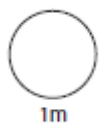


b) Work out $138 \div 6$



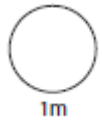
3

Work out 0.7×0.6



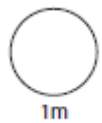
4

$$30 - (7+2) \times 2 =$$

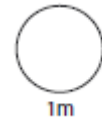


5

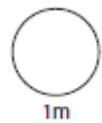
$$4^2 =$$



$$5^3 =$$

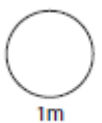


$$\sqrt{100} =$$

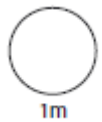


6

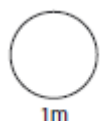
a) Calculate $\frac{3}{4}$ of 28



b) Calculate 15% of 40



c) Increase 80 by 25%

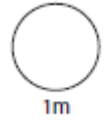
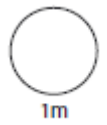


7

Write 45% as a fraction

Write $\frac{3}{8}$ as a decimal

Write 0.08 as a percentage



8

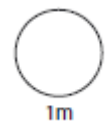
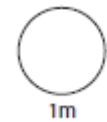
Paul and Craig share an inheritance in the ratio 3:2.



Craig gets £12.

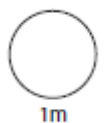
How much does Paul get?

Paul : Craig
3 : 2

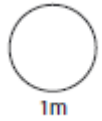


9

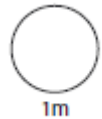
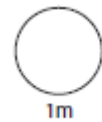
Write 28% as a fraction in its lowest terms.



10 Round 12.34 to 1 significant figure

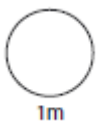


11 John buys 17 pencils at 36p each. Estimate his total cost.

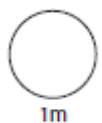


12 A plumber's bill is £60 without VAT. The VAT rate is 20%. Find the VAT and the total bill.

VAT



Total

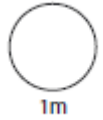
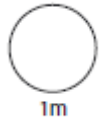


13

Convert the following

$$0.4 \text{ km} = \underline{\hspace{2cm}} \text{ m}$$

$$750 \text{ cm} = \underline{\hspace{2cm}} \text{ m}$$

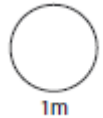


14

Chile is 14 hours behind Melbourne.

a) If it is 2pm in Chile, what time is it in Melbourne?

b) If it is 9am in Melbourne, what time is it in Chile?



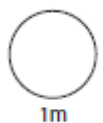
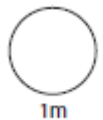
15

The formula for converting temperatures is

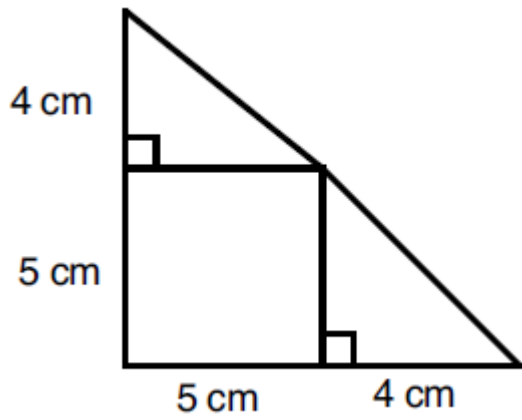
$$C = \frac{5(F - 32)}{9}$$

where F is the temperature in degrees Fahrenheit and C is the temperature in degrees Celsius.

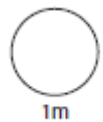
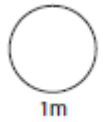
An old recipe gives the oven temperature 302 °F.
Convert this temperature to Celsius.



16

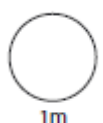
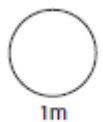
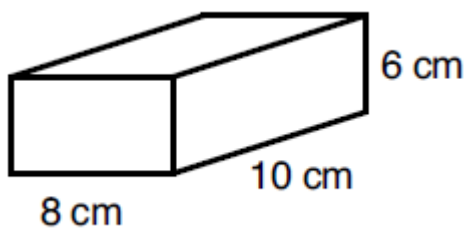


Calculate the area of the above shape.

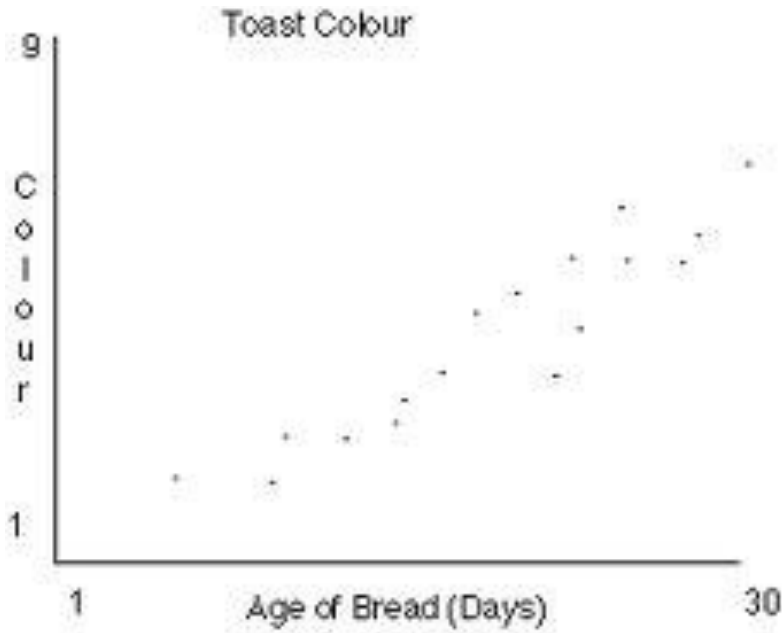


17

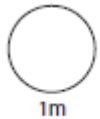
Calculate the volume of the cuboid.



18

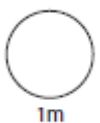


What type of correlation is shown on the scatter graph below.



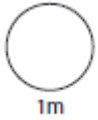
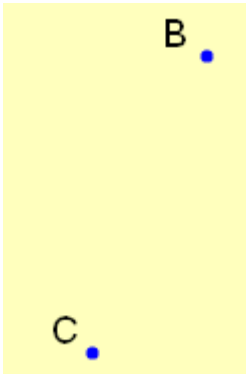
19

The temperature in degrees Celsius over 4 days in July was 21, 21, 19 and 19. What was the mean temperature?



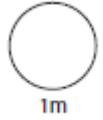
20

Write down the bearing of C from B.

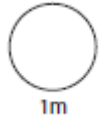


1

$$317 + \boxed{} = 900$$

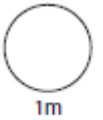


$$89.7 + 34.2 = \boxed{}$$

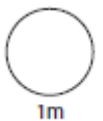


2

a) Work out 109×31

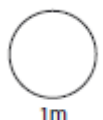


b) Work out $315 \div 7$



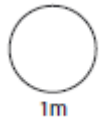
3

Work out 0.12×3



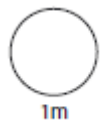
4

$$12 + (3+2)^2 =$$

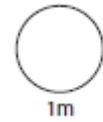


5

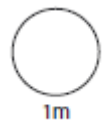
$$9^2 =$$



$$4^3 =$$

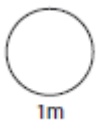


$$\sqrt{121} =$$

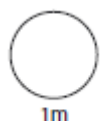
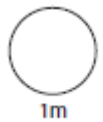


6

a) Calculate $\frac{3}{4}$ of 60



b) Calculate 35% of 60

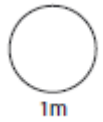
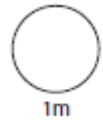
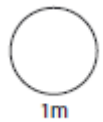


7

Write 70% as a fraction

Write $\frac{1}{8}$ as a decimal

Write 0.14 as a percentage



8

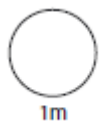
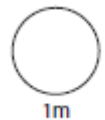


Oranges

200g costs £1.50

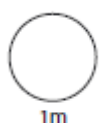


How much for 1.2kg?



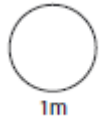
9

Write 80% as a fraction in its lowest terms.



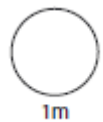
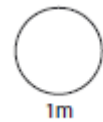
10

Round 321.78 to 1 significant figure



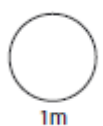
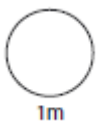
11

Jack buys 67 lamps for £17.99. Estimate his total cost.



12

A television costs £495 without VAT.
Work out the price including VAT calculated at 20%.

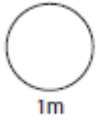
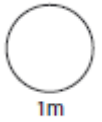


13

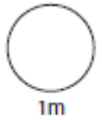
Convert the following

3500 m = _____ km

600 mm = _____ cm

**14**

Auckland is 12 hours ahead of London. Harry is in London and wants to ring his brother in Auckland. His brother is available at 6.45pm (Auckland time) What time should Harry ring?

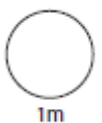
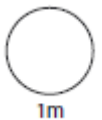
**15**

The formula for converting temperatures is

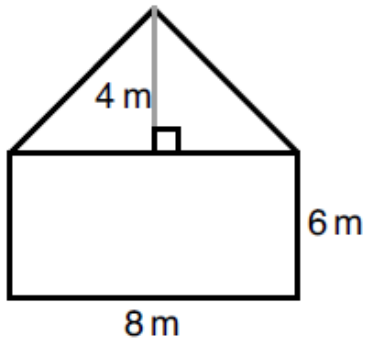
$$C = \frac{5(F - 32)}{9}$$

where F is the temperature in degrees Fahrenheit and C is the temperature in degrees Celsius.

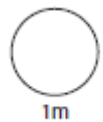
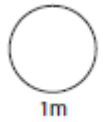
Use the formula to convert 50°F to degrees Celsius.



16

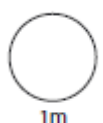
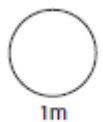
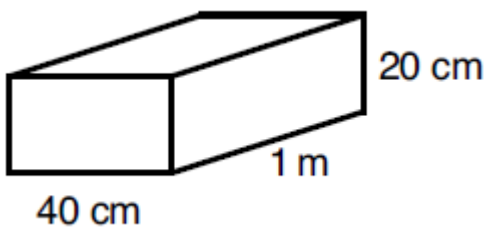


Calculate the area of the above shape.

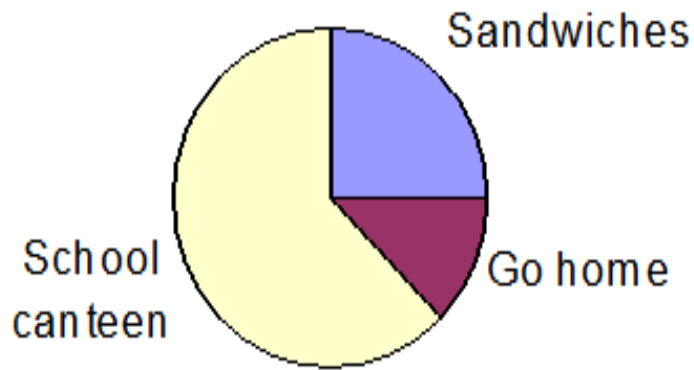


17

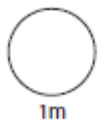
Calculate the volume of the cuboid.



18

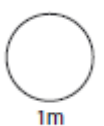


This pie chart shows how pupils in 8D have their lunch. If 8 pupils have sandwiches. How many pupils are in 8D?



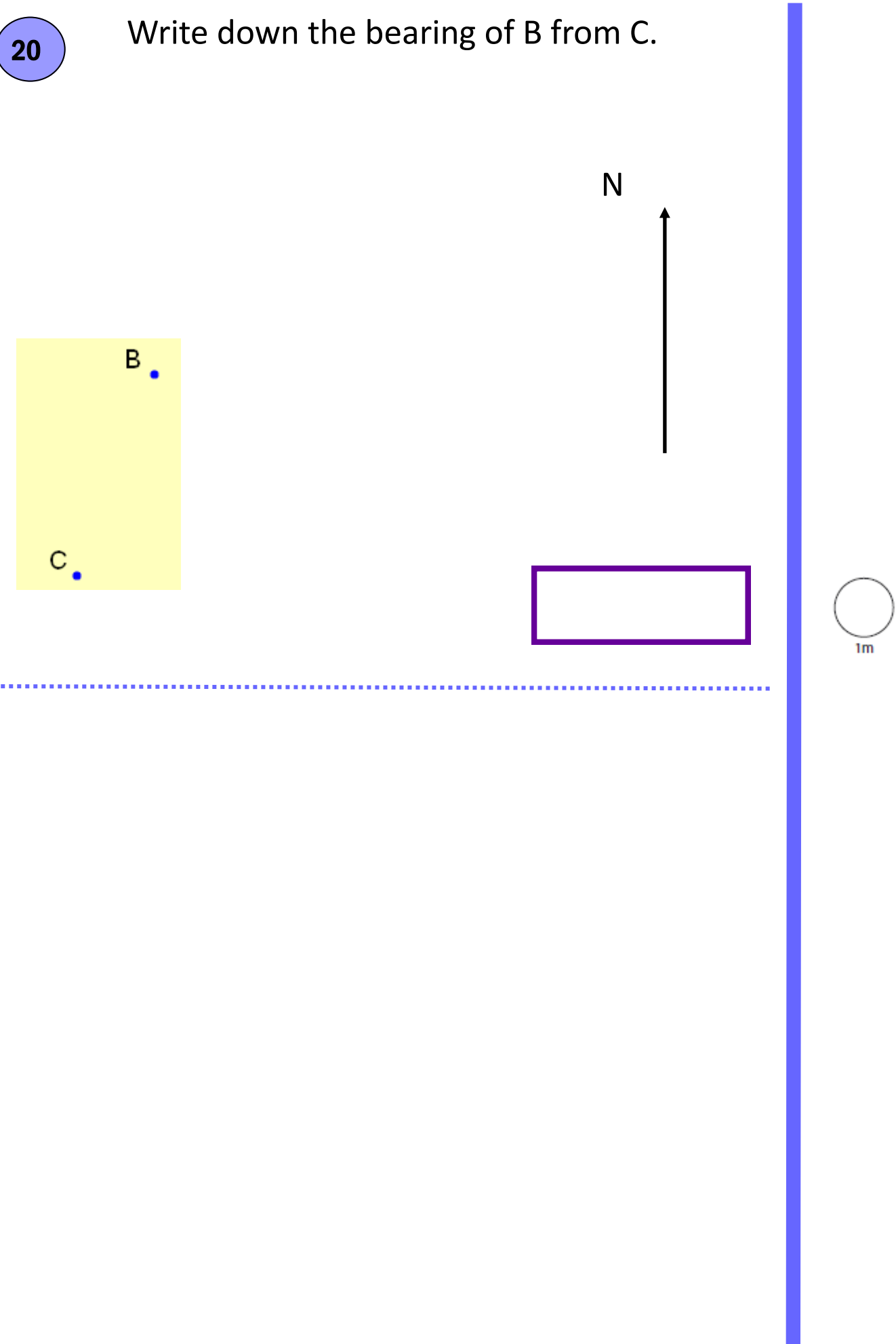
19

What is the median of these numbers: 10, 3, 6, 10, 4, 8?



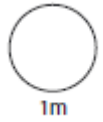
20

Write down the bearing of B from C.

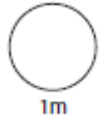


1

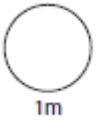
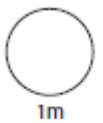
$317 + \boxed{} = 900$



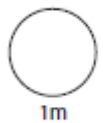
$89.7 + 34.2 = \boxed{}$



2

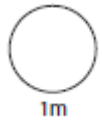
a) Work out 176×99 b) Work out $376 \div 8$ 

3

Work out 1.17×0.3 

4

$$18 \div 6 + 2 \times 5 =$$

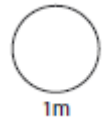
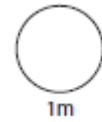
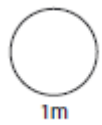


5

$$7^2 =$$

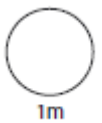
$$3^3 =$$

$$\sqrt{144} =$$

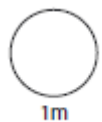
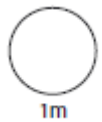


6

a) Calculate $\frac{2}{5}$ of 60



b) Calculate 4% of 60

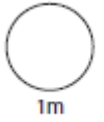
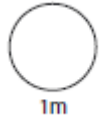
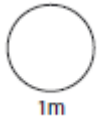


7

Write 8% as a fraction

Write $\frac{1}{3}$ as a decimal

Write 0.04 as a percentage



8

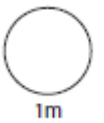
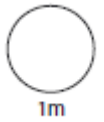


Apples

250g costs £3.50

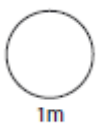


How much for 0.8kg



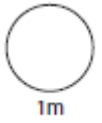
9

Write $\frac{28}{440}$ as a fraction in its lowest terms.



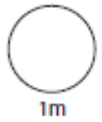
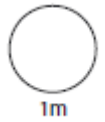
10

Round 0.087 to 1 significant figure



11

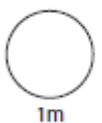
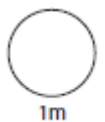
Sarah buys 18 pens for £1.49 each. Calculate her total cost



12

A car costs £16 000 excluding VAT.

Work out the price of the car including VAT calculated at 20%.

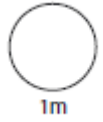
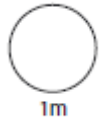


13

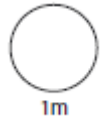
Convert the following

170 cm = _____ m

800 mm = _____ cm

**14**

Auckland is 12 hours ahead of London. Harry is flying to London from Auckland. He leaves Auckland at 8.00am local time. The flight is 23hrs long. What time will he arrive London, local time?

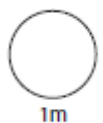
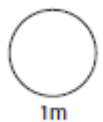
**15**

The formula for converting temperatures is

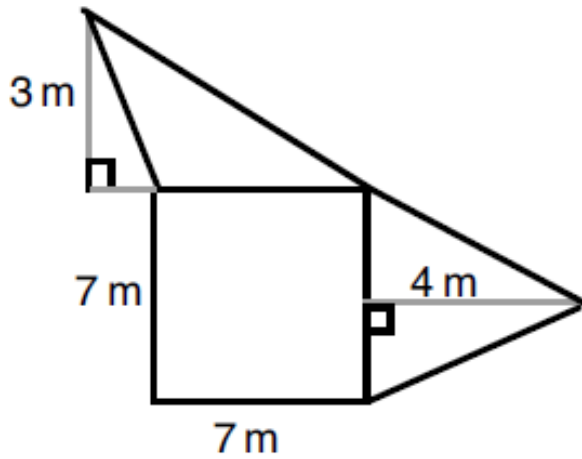
$$C = \frac{5(F - 32)}{9}$$

where F is the temperature in degrees Fahrenheit and C is the temperature in degrees Celsius.

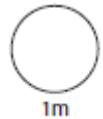
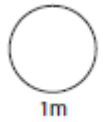
Use the formula to convert 68°F to degrees Celsius.



16

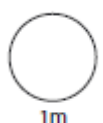
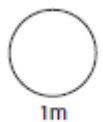
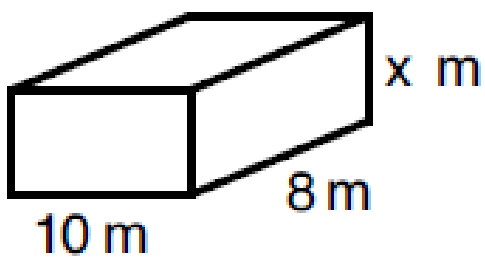


Calculate the area of the above shape.



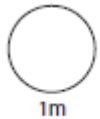
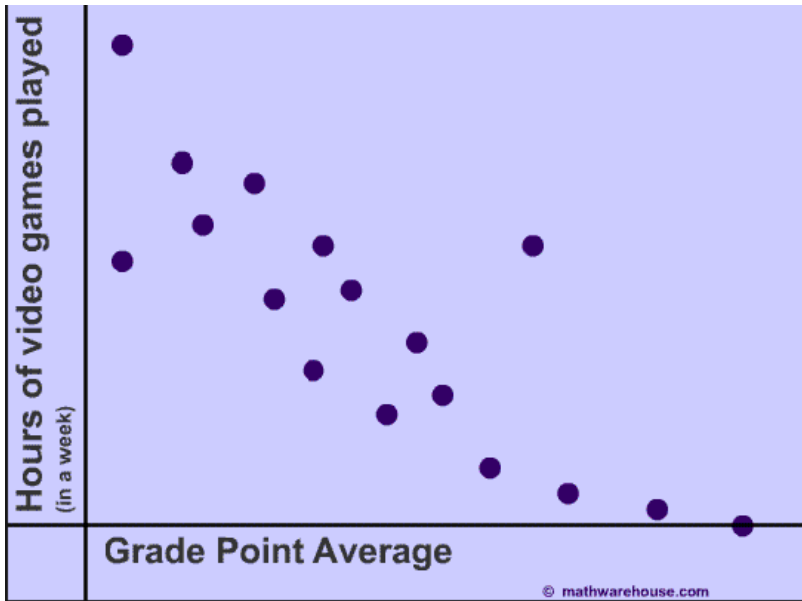
17

The volume of the cuboid is 400m^3 calculate the height.



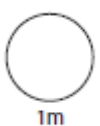
18

What type of correlation is shown on the scatter graph below.



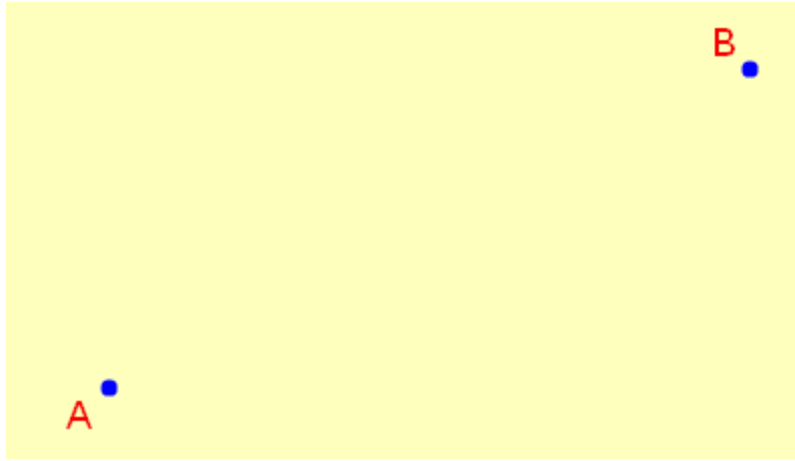
19

The mean of four numbers is 8. Three of the numbers are 12, 6, 5, what is the 4th number?

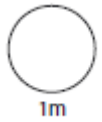


20

Find the bearing of A from B.



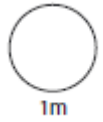
N



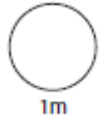
HL 4

1

$$1.74 + \boxed{} = 20$$

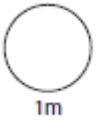


$$3000 - 416 = \boxed{}$$

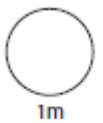


2

a) Work out 405×99

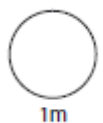


b) Work out $1465 \div 5$



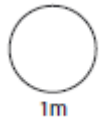
3

Work out 2.56×0.2



4

$$19 + (7-2) \times 3 =$$

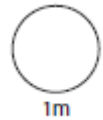
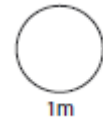
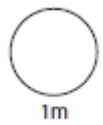


5

$$13^2 =$$

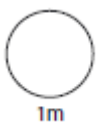
$$4^3 =$$

$$\sqrt{64} =$$

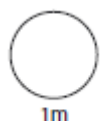
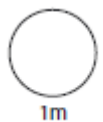


6

a) Calculate $\frac{3}{5}$ of 220



b) Calculate 35% of 82

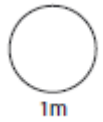
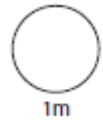
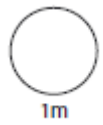


7

Write 20% as a fraction

Write $\frac{2}{3}$ as a decimal

Write 0.015 as a percentage



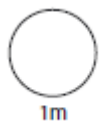
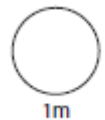
8



Bananas

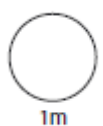
100g costs £2.25

How much for 2kg?



9

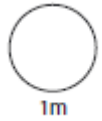
Write $\frac{77}{280}$ as a fraction in its lowest terms.



10

Round 0.01356 to **2 significant figures**.

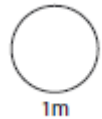
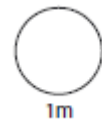
Round 7845 to **3 significant figures**



11

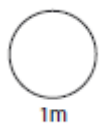
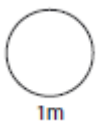
Estimate the total value.

$$£3.45 + £17.79 \times 9$$



12

A lamp costs £32 plus 20% VAT. How much will you pay for the lamp?

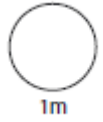
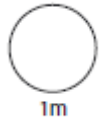


13

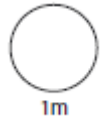
Convert the following

17 cm = _____ mm

8000 mm = _____ m

**14**

When it is 13:39 in London it is 05:39 in Seattle. When it is 15:45 in London it is 22:45 in Bangkok. If it is 08:00 in Seattle what time is it in Bangkok?

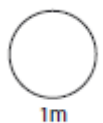
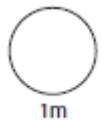
**15**

The formula for converting temperatures is

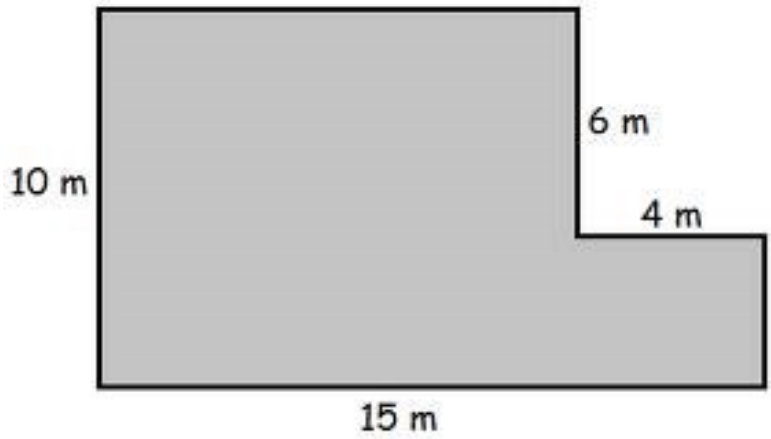
$$C = \frac{5(F - 32)}{9}$$

where F is the temperature in degrees Fahrenheit and C is the temperature in degrees Celsius.

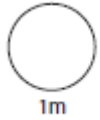
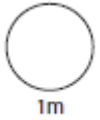
Use the formula to convert 59°F to degrees Celsius.



16

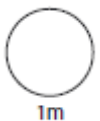
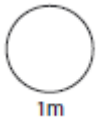
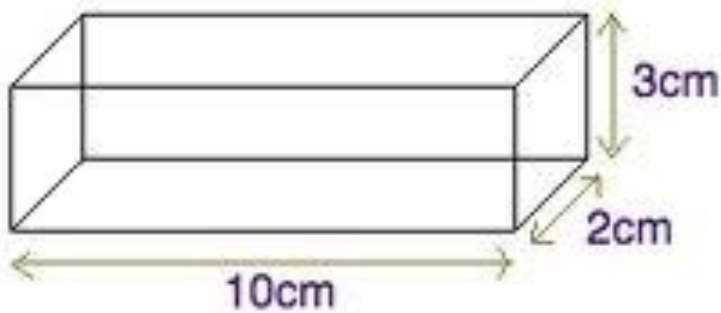


Calculate the area of the above shape.



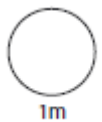
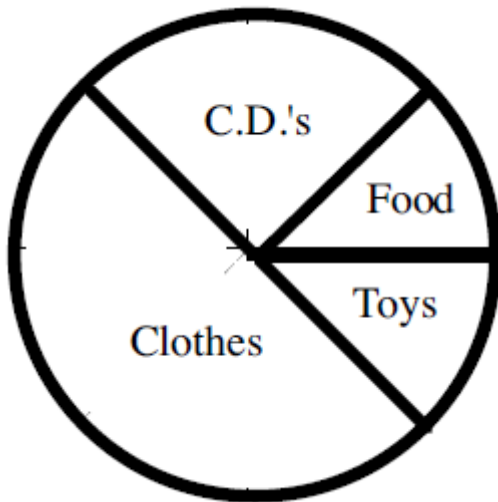
17

Calculate the volume of the shape below.



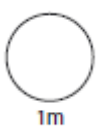
18

The pie chart shows the breakdown of how Year 8 pupils spend their pocket money. If 14 people said C.D.s, how many people were asked altogether?



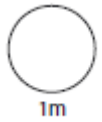
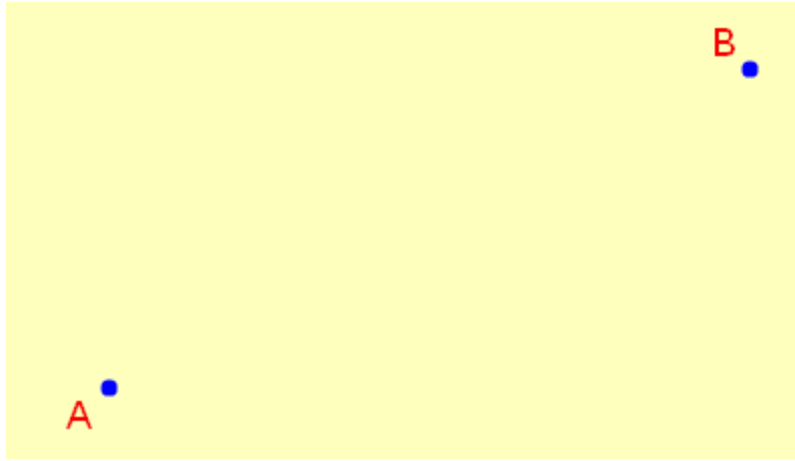
19

The mean of four numbers is 12. Three of the numbers are 15, 3, 18, what is the 4th number?



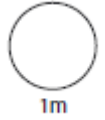
20

Find the bearing of B from A.

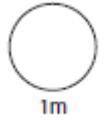


1

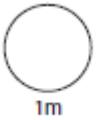
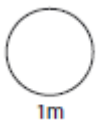
$5.76 + \boxed{} = 30$



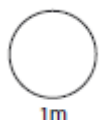
$7000 - 728 = \boxed{}$



2

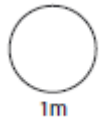
a) Work out 153×97 b) Work out $3087 \div 9$ 

3

Work out 14.32×0.7 

4

$$40 - (9+5) \div 2 =$$

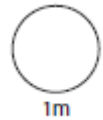
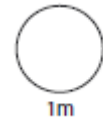
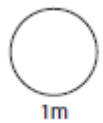


5

Write down the reciprocal of 3 =

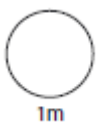
$$10^3 =$$

$$\sqrt{16} =$$

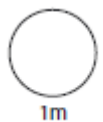


6

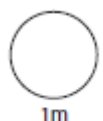
a) Calculate $\frac{5}{6}$ of 240



b) Calculate 95% of 104



c) Decrease 560 by 20%

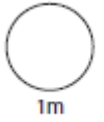
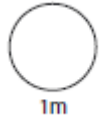
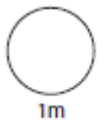


7

Write 18% as a fraction

Write $1/50$ as a decimal

Write 0.735 as a percentage



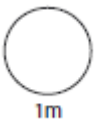
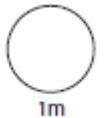
8



String 10cm costs 25p

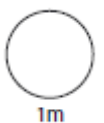


How much for 5.50m?



9

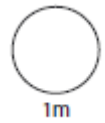
Write $99/220$ as a fraction in its lowest terms.



10

Round 34.56 to 1 significant figure

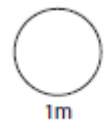
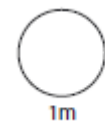
Round 12.987 to 2 significant figures



11

Estimate the total value.

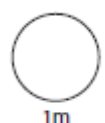
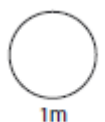
$$17 \times (\pounds 3.45 + \pounds 17.79 + \pounds 32.23)$$



12

Buy one get one free.!

A 2 litre bottle costs £1.50.
How much will 12 litres cost?

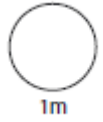
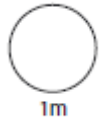


13

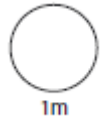
Convert the following

112 mm = _____ cm

10 miles = _____ km

**14**

When it is 14:00 in London it is 06:00 in Vancouver. When it is 16:00 in London it is 23:00 in Bangkok. If it is 09:00 in Vancouver what time is it in Bangkok?

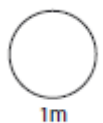
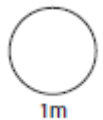
**15**

The formula for converting temperatures is

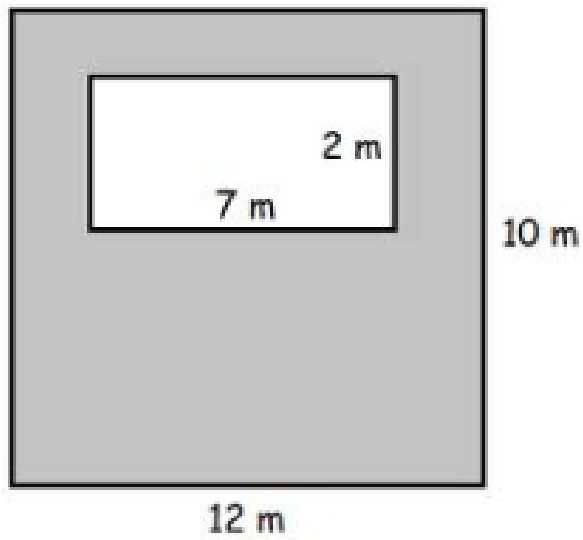
$$C = \frac{5(F - 32)}{9}$$

where F is the temperature in degrees Fahrenheit and C is the temperature in degrees Celsius.

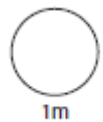
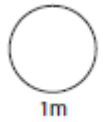
Use the formula to convert 77°F to degrees Celsius.



16

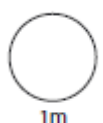
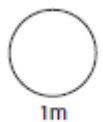
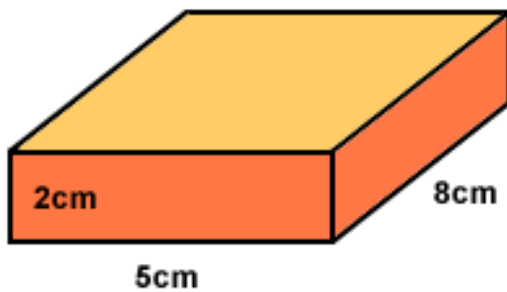


Calculate the area of the shaded region.



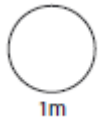
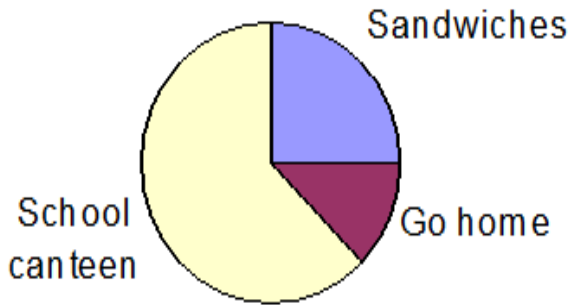
17

Calculate the volume of the shape below.



18

Pie Chart below shows what pupils in 7D have for lunch. If 8 pupils have sandwiches how many pupils go to the school canteen?

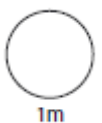


19

Scores in a game:

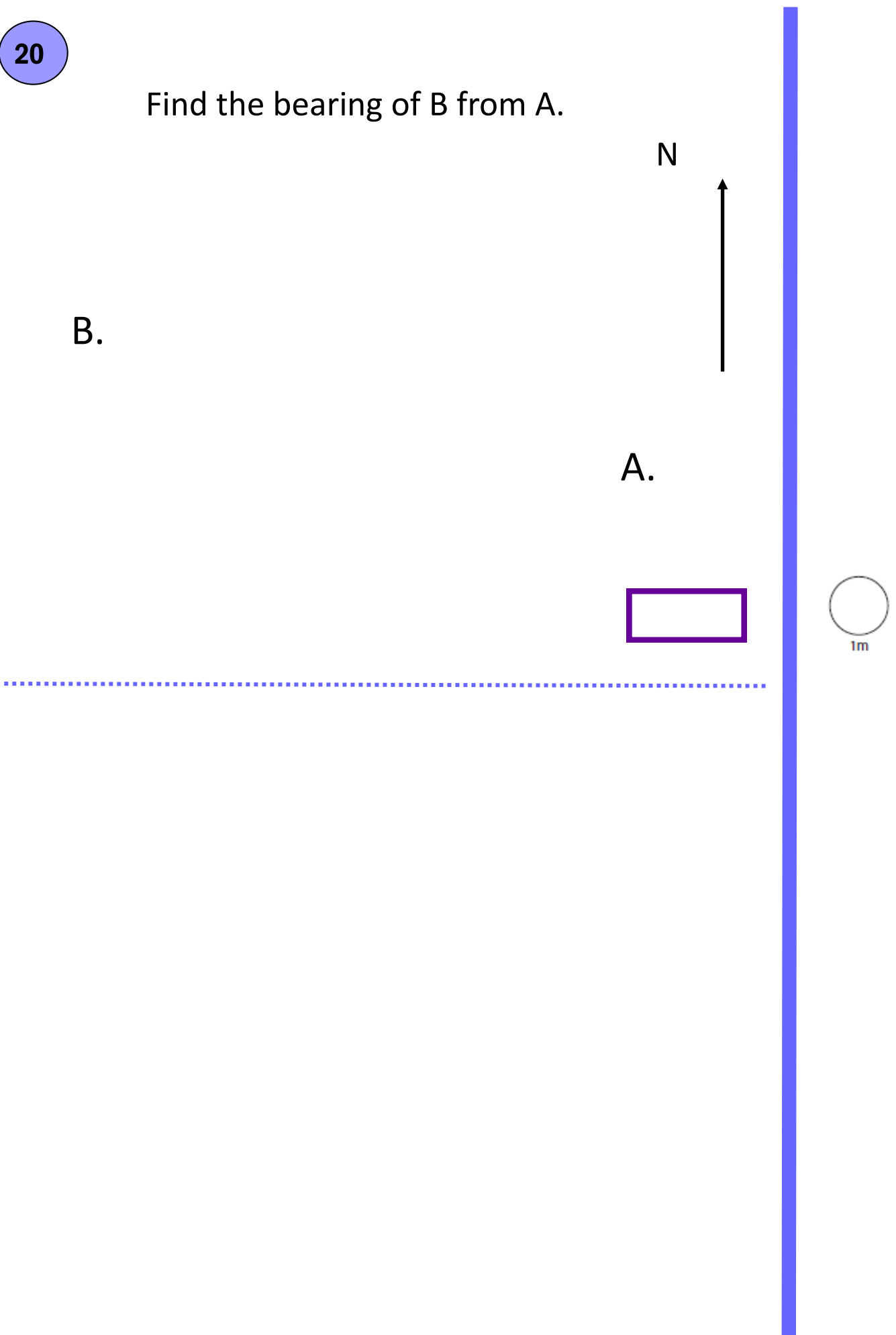
2 3 2 0 3 2 4 3 2

What is the median score?



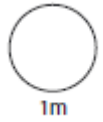
20

Find the bearing of B from A.

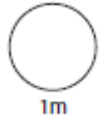


1

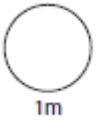
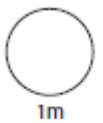
$14.32 + \boxed{} = 45.6$



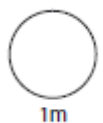
$800 - 198.99 = \boxed{}$



2

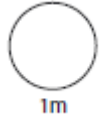
a) Work out 654×95 b) Work out $4689 \div 9$ 

3

Work out $3.2 \div 0.08$ 

4

$$(9 - 5)^2 \div 2 + 4 = \boxed{}$$

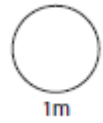
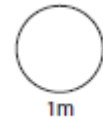
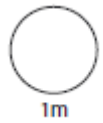


5

Write down the reciprocal of 5 =

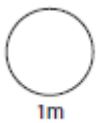
$$7^3 = \boxed{}$$

$$\sqrt{400} = \boxed{}$$

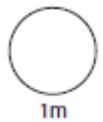


6

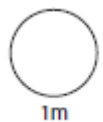
a) Calculate $\frac{3}{8}$ of 328



b) Calculate 99% of 225



c) Decrease 680 by 15%

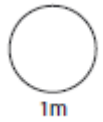
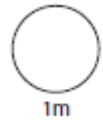
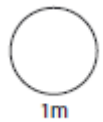


7

Write 22% as a fraction

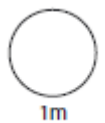
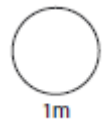
Write $1/25$ as a decimal

Write 0.4 as a percentage



8

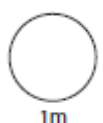
Jim walks 3 miles in 51 minutes. How long would it take him to walk 2 miles ?



9

Calculate $1/5 + 3/4$

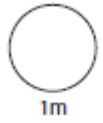
Write your answer as a fraction in its lowest form



10

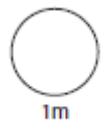
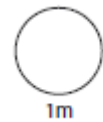
Round 1342 to 1 significant figure

Round 1952 to 2 significant figures



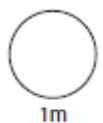
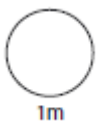
11

Emma buys 29 pencils which cost 19p each. Estimate her total cost.



12

A plane ticket costs £350 excluding VAT. Vat is calculated at 20%. What is the total cost of the plane ticket?

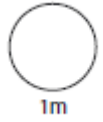
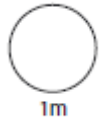


13

Convert the following

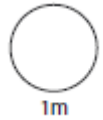
7000 mm = _____ cm

20 miles = _____ km



14

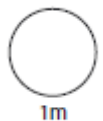
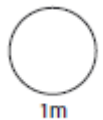
Anna's flight leaves from **London** at 8:30 am to **New York**. The flight takes **6 hours and 30 minutes**. Anna wants to phone her mum in England to tell her she has arrived safely. What time is it in New York when she lands? (When it is 10pm in London it is 4pm in New York)



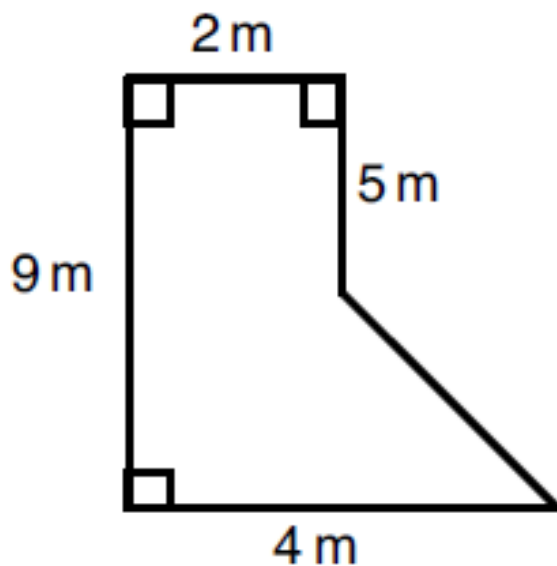
15

$$F = C (1.8) + 32$$

The above formula converts degrees Fahrenheit to degrees Celsius. Work out 20°C to Fahrenheit.



16

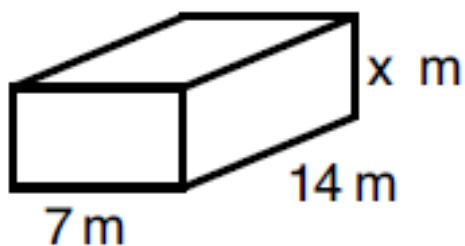


Calculate the area of the shape



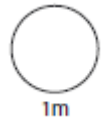
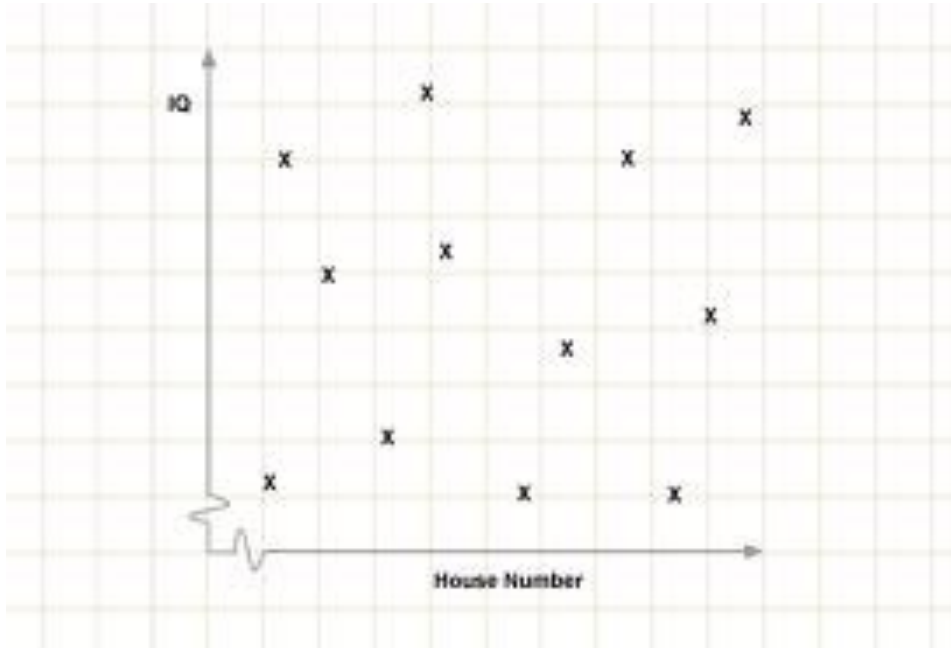
17

The volume of the shape below is 490m^3 .
Work out the value of x .



18

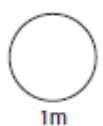
What type of correlation is shown on the scatter graph below.



19

Five single-digit numbers stand in a row. They have a median of 6, a mode of 3 and a range of 6. What are the five numbers?

--	--	--	--	--



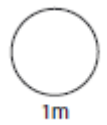
20

Find the bearing of A from B.



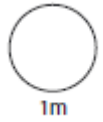
A.

B.

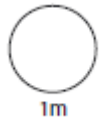


1

$$276 + \boxed{} = 901$$

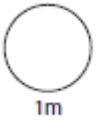


$$750 - 197.65 = \boxed{}$$

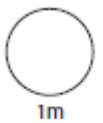


2

a) Work out 871×19

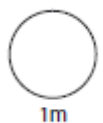


b) Work out $780 \div 12$



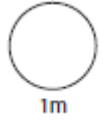
3

Work out $14.04 \div 9$



4

$$(3 + 5)^2 \div 2 + 10 =$$

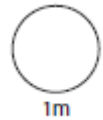
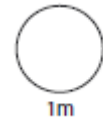
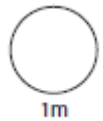


5

Write down the reciprocal of 5 =

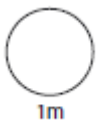
$$6^3 =$$

$$\sqrt{900} =$$

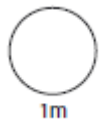


6

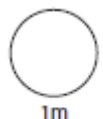
a) Calculate $\frac{2}{13}$ of 260



b) Calculate 95% of 4200

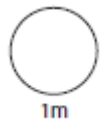


c) Decrease 680 by 17%

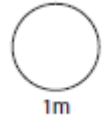


7

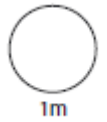
Write 5% as a fraction



Write $\frac{9}{40}$ as a percentage

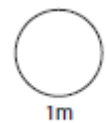
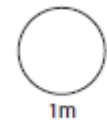


Write 0.01 as a percentage



8

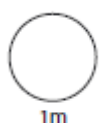
15 calculators cost £105, how much would 10 calculators cost?



9

Calculate $\frac{2}{5} + \frac{1}{4}$

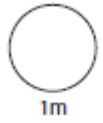
Write your answer as a fraction in its lowest form



10

Round 35902 to 1 significant figure

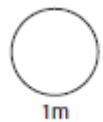
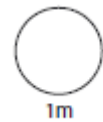
Round 18.97 to 2 significant figures



11

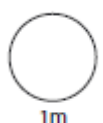
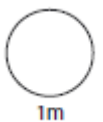
By rounding to 1 significant figure first, estimate the following

$$(456 + 6237) \div 0.126$$



12

A trip to Disney Land for a family £3200 excluding VAT. If VAT is calculated at 20% work out the total cost for the family's trip.

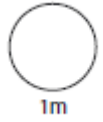
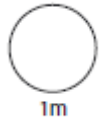


13

Convert the following

72000 cm = _____ km

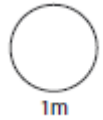
40 km = _____ miles



14

When it is 13.45 in London it is 01.45 in New Zealand.

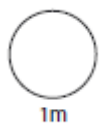
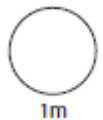
If it is 09.00 in London what time will be in New Zealand.



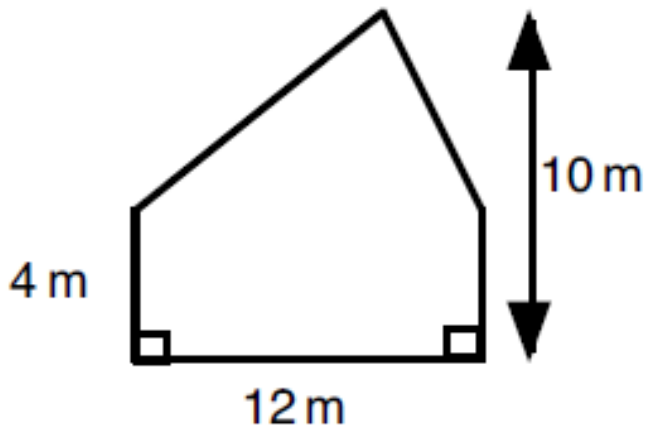
15

$$F = C(1.8) + 32$$

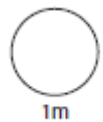
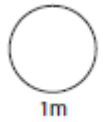
The above formula converts degrees Fahrenheit to degrees Celsius. Work out 40°C in degrees Fahrenheit.



16

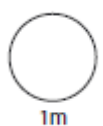
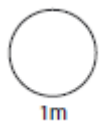
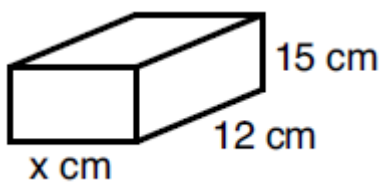


Calculate the area of the shape



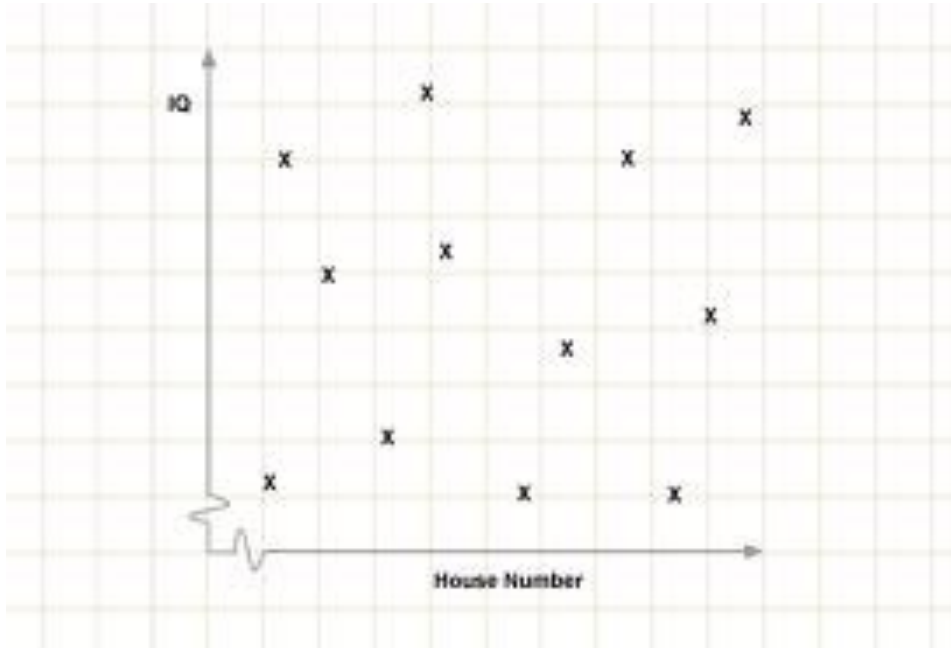
17

The volume of the shape below is 1980cm^3 .
Work out the value of x .



18

What type of correlation is shown on the scatter graph below.



1m

19

Five single-digit numbers stand in a row. They have a median of 6, a mode of 1 and a range of 8. What are the five numbers?

--	--	--	--	--

1m

20

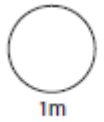
Find the bearing of A from B.

A.

N

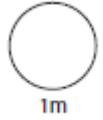


B.

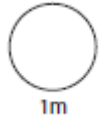


1

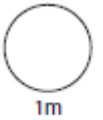
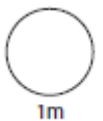
$276 + \boxed{} = 901$



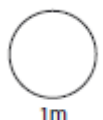
$750 - 197.65 = \boxed{}$



2

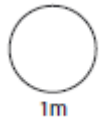
a) Work out 756×83 b) Work out $627 \div 33$ 

3

Work out $7.77 \div 3$ 

4

$$(3 + 5)^2 \div 2 + 10 =$$

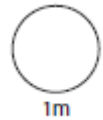
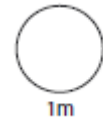
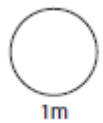


5

Write down the reciprocal of 5 =

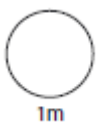
$$6^3 =$$

$$\sqrt{900} =$$

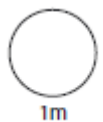


6

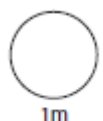
a) Calculate $\frac{2}{13}$ of 260



b) Calculate 95% of 4200



c) Decrease 680 by 17%

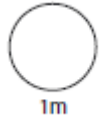
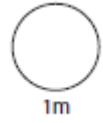
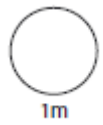


7

Write 22% as a fraction

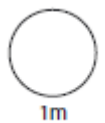
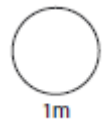
Write $\frac{4}{25}$ as a percentage

Write 0.09 as a percentage



8

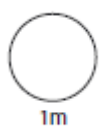
13 exercise books weigh 442 grams.
What is the weight of 10 of these books ?



9

Calculate $\frac{2}{5} + \frac{1}{4}$

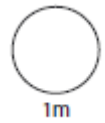
Write your answer as a fraction in its lowest form



10

Round 19.987 to 1 significant figure

Round 1.0567 to 3 significant figures



11

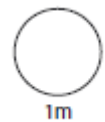
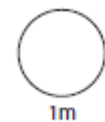
Estimate the total length

18cm

1.67m

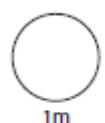
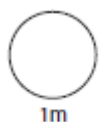
35mm

0.89m



12

Seven years ago VAT was calculated at 17.5%.
If a builder charged £430 for a job in 2007,
excluding VAT, what was the total bill?

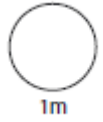
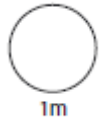


13

Convert the following

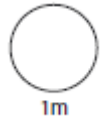
8700cm = _____ km

25 miles = _____ km



14

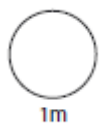
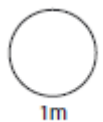
When it is 14.55pm in Colwyn Bay it is 17.55pm in Moscow.
If it is 08.15 in Russia, what time is it in Colwyn Bay?



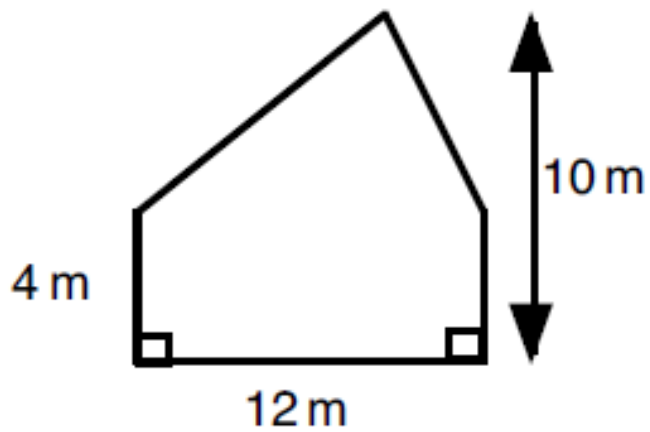
15

$$F = C (1.8) + 32$$

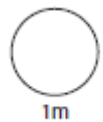
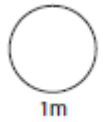
The above formula converts degrees Fahrenheit to degrees Celsius. Work out 35°C in degrees Fahrenheit.



16

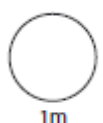
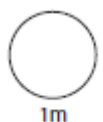


Calculate the area of the shape.



17

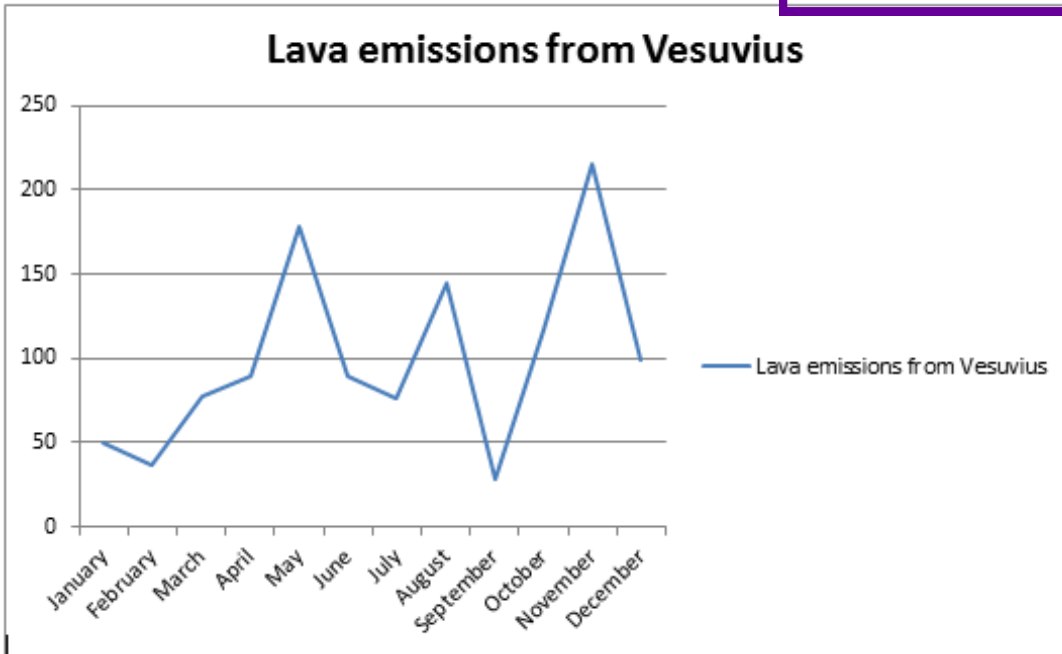
Work out the volume of a cube with length 7cm.



18

a) In which two months did the volcano produce the same amount of lava?

b) What is the total amount of



1m

1m

19

Five numbers stand in a row. They have a median of 20, a mode of 22 and a range of 4. What are the five numbers?

--	--	--	--	--

1m

20

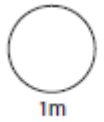
Find the bearing of A from B.

A.

N



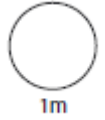
B.



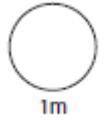
HL 8

1

$$76.3 + \boxed{} = 87.54$$

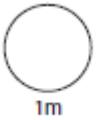


$$750 - 197.65 = \boxed{}$$

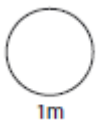


2

a) Work out 999×17

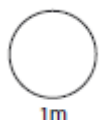


b) Work out $192 \div 16$



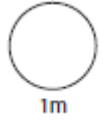
3

Work out $54.85 \div 5$



4

$$(17-13)^3 \div 2 + 4^2 =$$

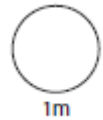
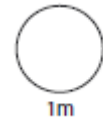
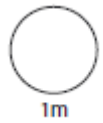


5

Write down the reciprocal of $\frac{3}{4} =$

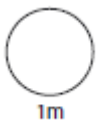
$10^3 =$

$\sqrt{196} =$

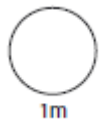


6

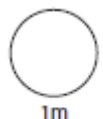
a) Calculate $\frac{3}{5}$ of 785



b) Calculate 92% of 1700

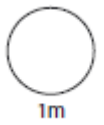


c) Decrease 120 by 14%



7

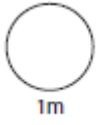
Write three quarters as a percentage



Write $6/40$ as a percentage

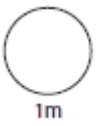
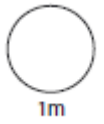


Write 24% as a decimal



8

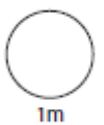
15 calculators cost £105, how much would 10 cost?



9

Calculate $5/6 + 1/4$

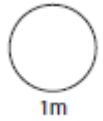
Write your answer as a fraction in its lowest form



10

Round 1345 600 to 1 significant figure

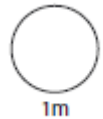
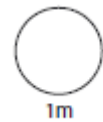
Round 134 980 to 2 significant figures



11

Estimate the amount

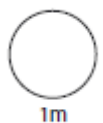
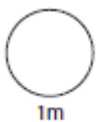
$$£4.46 + £6.79 + (2 \times £17.23)$$



12

A new kitchen is being fitted.

The material cost £4 500, the builder charges £45 per hour. VAT at 20% is charged on top of materials and labour costs. If it takes him 8 hours to fit the kitchen. What is the total cost the customer will have to pay?

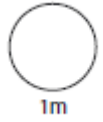
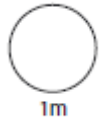


13

Convert the following

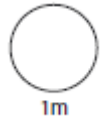
80000mm = _____ m

75 miles = _____ km



14

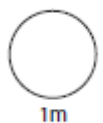
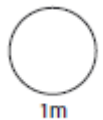
When it is 3pm in London it is 9am in New York and 4pm in Paris. If it is 7pm in New York, what time is it in Paris?



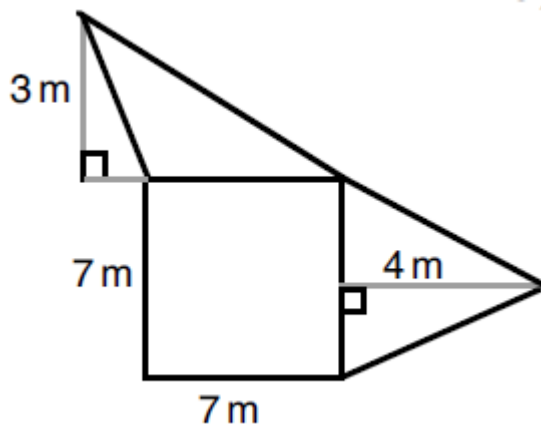
15

$$F = C (1.8) + 32$$

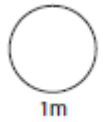
The above formula converts degrees Fahrenheit to degrees Celsius. Work out 45°C in degrees Fahrenheit.



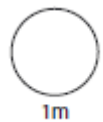
16



Calculate the area of the shape above.



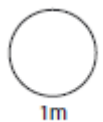
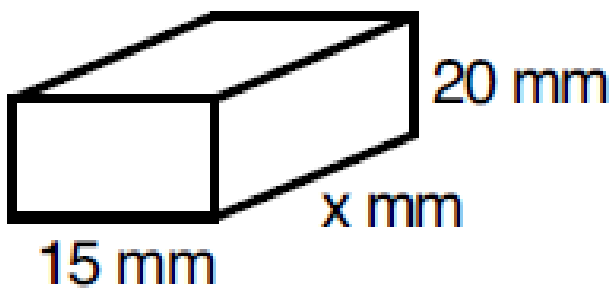
1m



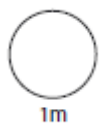
1m

17

The volume of the cuboid below is 5400mm^3 . What is the value of x ?

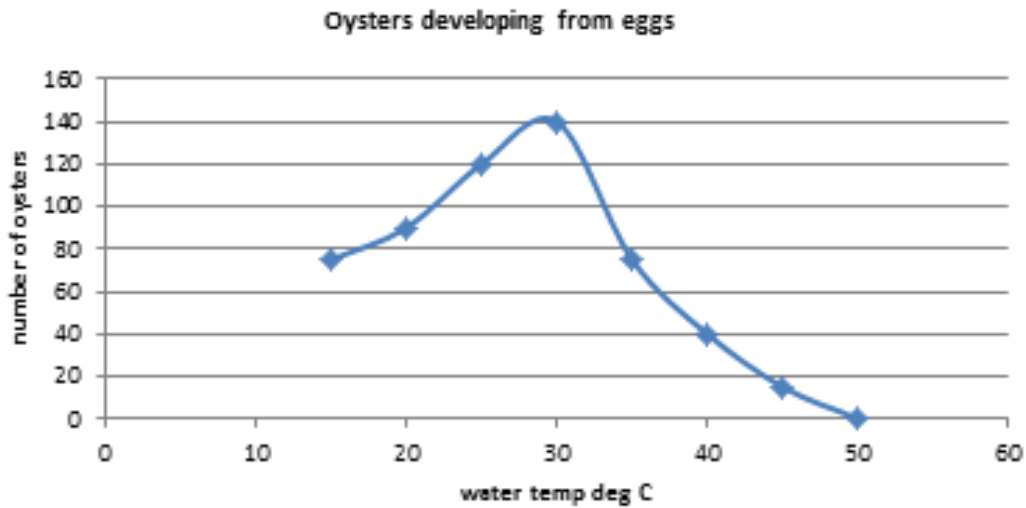


1m



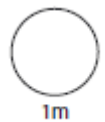
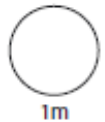
1m

18



A) What is the best temperature for oyster development?

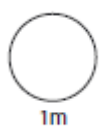
B) What range of temperatures were tested?



19

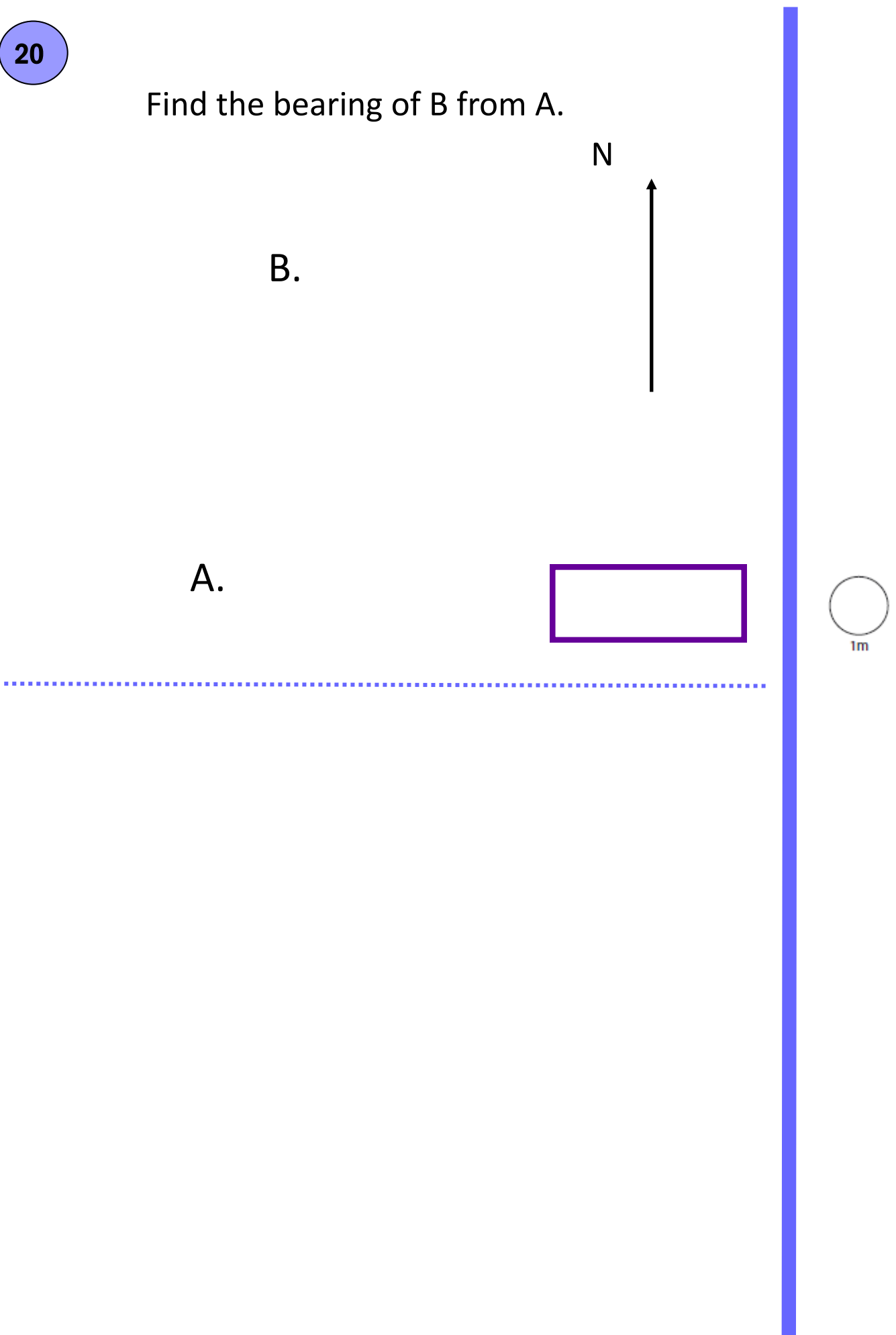
The table below shows the number of goals scored in a game by a football team throughout a tournament. Calculate the mean number of goals.

Number of goals in the game	Frequency
0	2
1	4
2	8
3	6



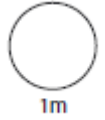
20

Find the bearing of B from A.

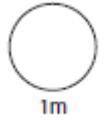


1

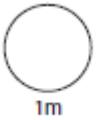
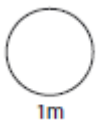
$$17.09 + \boxed{} = 89.2$$



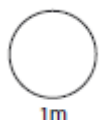
$$860 - 17.32 = \boxed{}$$



2

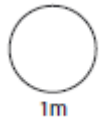
a) Work out 999×45 b) Work out $3060 \div 18$ 

3

Work out $68.52 \div 4$ 

4

$$(12-9)^3 + 3 \times 5 =$$

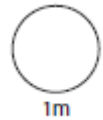
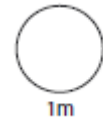
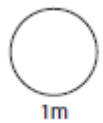


5

Write down the reciprocal of $\frac{3}{4} =$

$$11^3 =$$

$$\sqrt{169} =$$



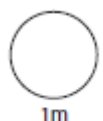
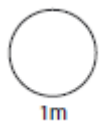
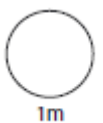
6

a) Calculate $\frac{7}{15}$ of 900



b) Calculate 91% of 180

c) Decrease 480 by 12%

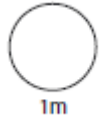
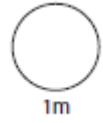
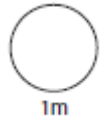


7

Write one fifth as a decimal

Write $\frac{7}{40}$ as a percentage

Write 2% as a decimal



8



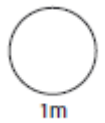
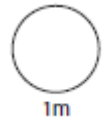
General purpose concrete is made by mixing cement, sand and aggregate in the ratio 1 : 2 : 4. Harry needs some concrete to repair a garden wall. He uses 4 buckets of cement.

How many buckets of sand and aggregate should he use?



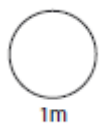
Sand

Aggregate



9

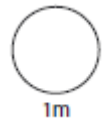
Write 45% as a fraction in its lowest form.



10

Round 105 600 to 1 significant figure

Round 105 980 to 3 significant figures



11

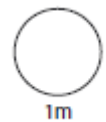
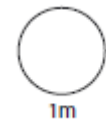
Estimate the total weight

234g

45g

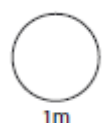
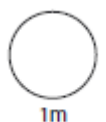
67g

0.37kg



12

Children do not pay VAT on their school dinners but teachers do. If a child pays £2.10 for their school dinner. How much would three students' and two teachers' meals cost? VAT is calculated at 20%

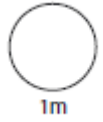
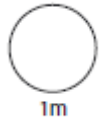


13

Convert the following

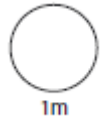
3.5km= _____ cm

100 miles = _____ km



14

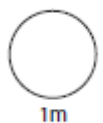
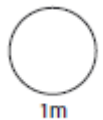
When it is 9pm in Dublin it is 2pm in Chicago. The flight from Dublin to Chicago takes 9hrs. If a plane leaves Dublin at 3.05am (local time), what time will it arrive in Chicago (local time)?



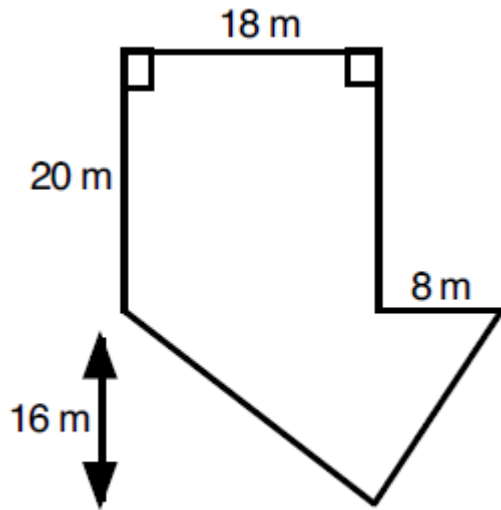
15

$$F = C (1.8) + 32$$

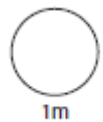
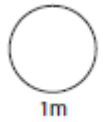
The above formula converts degrees Fahrenheit to degrees Celsius. Work out 55°C in degrees Fahrenheit.



16

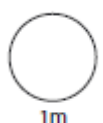
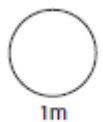
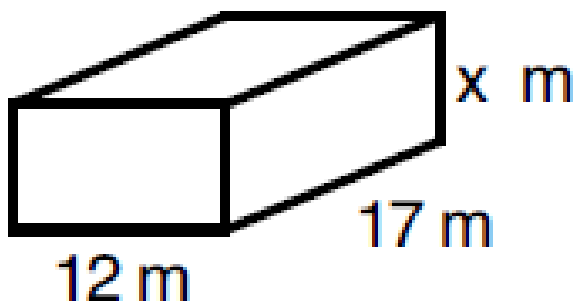


Calculate the area of the shape above.

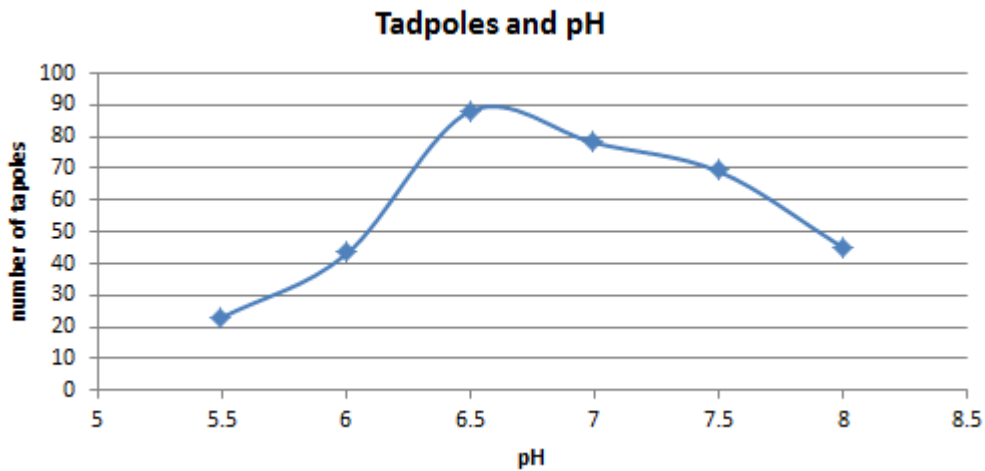


17

The volume of the cuboid below is 2244m^3
What is the value of x ?

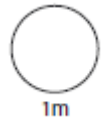
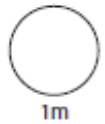


18



a) Between what two pH readings is there the greatest change in tadpole numbers?

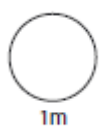
b) How many tadpoles would we expect to find in water with a pH reading of 8.5



19

The table shows the number of pets students in a class have. What is the mean number of pets?

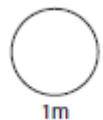
Number of pets	Frequency
0	8
1	10
2	5
3	3
Total	



20

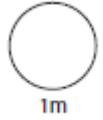
The point B is on a bearing of 140° from A and a distance of 4cm. Draw B in the space below.

A.

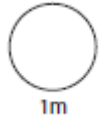


1

$$23.17 + \boxed{} = 67.32$$



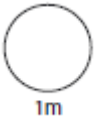
$$860 - 87.5 = \boxed{}$$



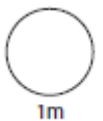
2

a) School bags cost £14.99 work out the cost of 7 school bags.



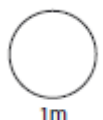


b) The total cost of a school trip is £168. If 30 pupils are going, how much do they pay each?



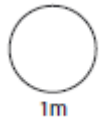
3

Work out $155.07 \div 9$



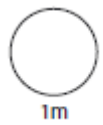
4

$$4^3 \times 2 + 9 =$$

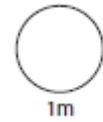


5

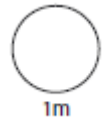
Write down the reciprocal of 0.2



Write down the cube of 2

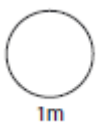


Write down the cube root of 64

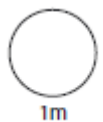


6

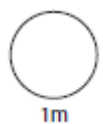
a) Calculate $\frac{3}{7}$ of 490



b) Calculate 12% of 160



c) Decrease 540 by 5%

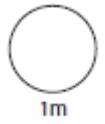
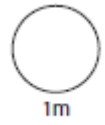
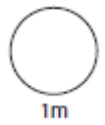


7

Write three fifths as a decimal

Write $\frac{1}{8}$ as a percentage

Write 150% as a decimal

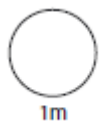
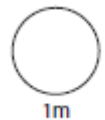
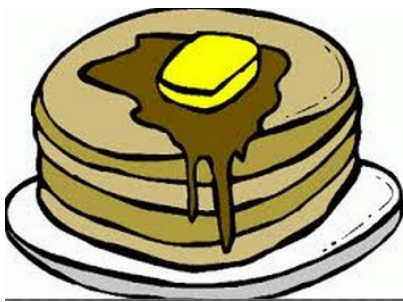


8

Pancake batter is made from 2 eggs, 100g of plain flour, 300ml of milk and a pinch of salt. This recipe makes 8 pancakes.

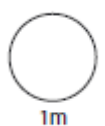


If I have 550g of flour and a surplus of all the other ingredients—how many pancakes can I make?
(Remember you can't have half an egg!)



9

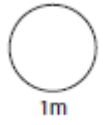
Write 70% as a fraction in its lowest form.



10 Round 0.786 to 1 significant figure

Round 0.08076 to 3 significant figures

fig-



11 Estimate the total weight

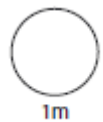
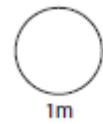
56mm

6.4cm

3.2cm

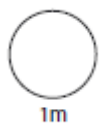
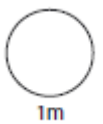
8.9cm

67mm



12

Tomos puts £3000 in a bank account which earns 5% interest per annum. How much money will Tomos have in his bank account after 2 years.

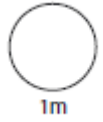
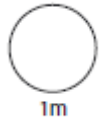


13

Convert the following

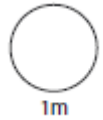
38.7654km = _____ m

150 miles = _____ km



14

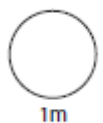
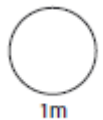
When it is 9pm in London it is 3pm in New York. The flight from New York to London takes 8hrs. If a plane leaves London at 6.05pm (local time), what time will it arrive in New York (local time)?



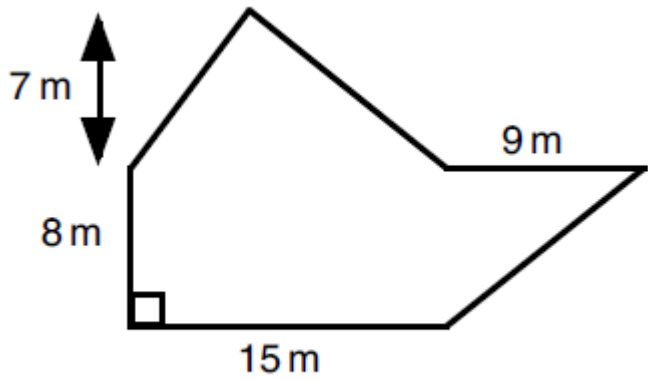
15

$$F = C (1.8) + 32$$

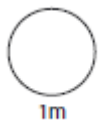
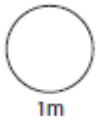
The above formula converts degrees Fahrenheit to degrees Celsius. Work out 70°C in degrees Fahrenheit.



16

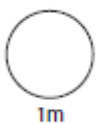
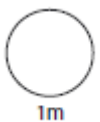
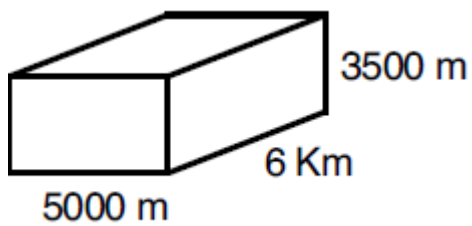


Calculate the area of the shape above.



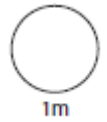
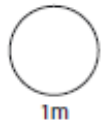
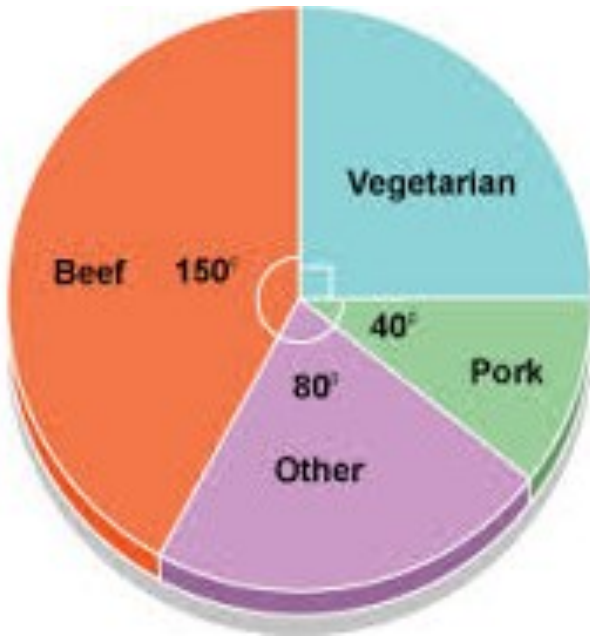
17

Work out the volume of the cuboid below.



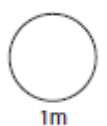
18

The pie chart below shows the breakdown of school dinner choices. If 75 people said 'Beef' how many were asked altogether?



19

The mean of five numbers is 4. Four of the numbers are 2, 3, 4 and 7, what is the fifth number?



20

The point B is on a bearing of 320° from A and a distance of 2cm. Draw B in the space below.

