Draw nets of 3D shapes

1 Ron is drawing the net of this cube.
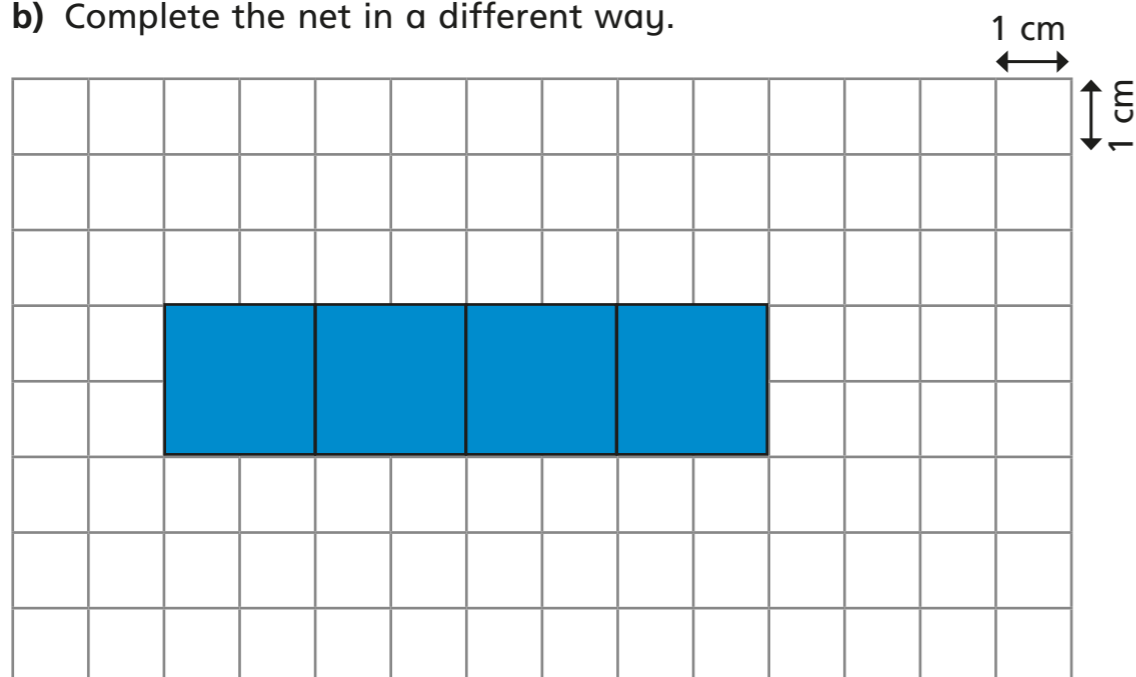
2 cm
2 cm
2 cm
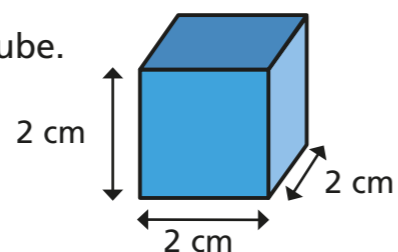
a) Here is part of his net.
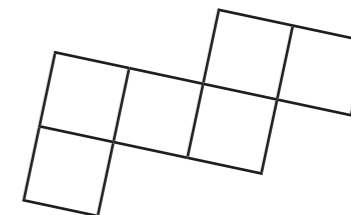
1 cm
1 cm
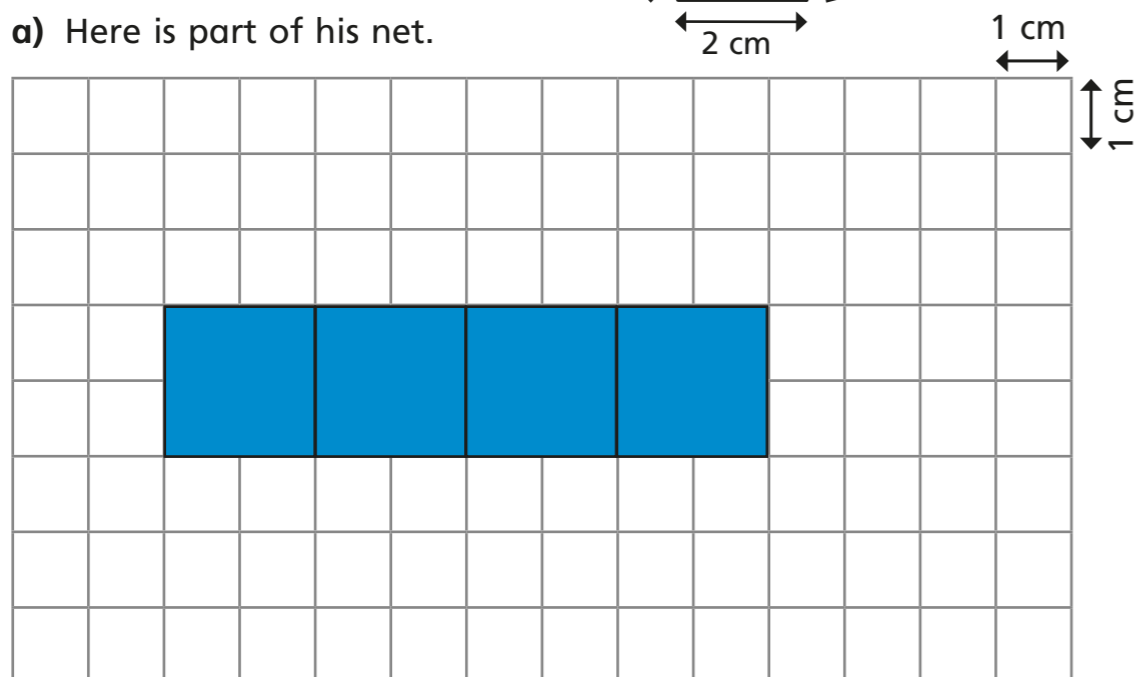
Complete the net.

b) Complete the net in a different way.

1 cm
1 cm

2 Tick the nets that will make a cube.

A
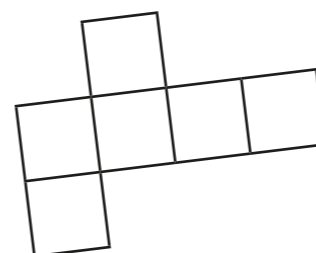
C

B
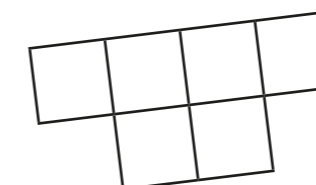
D
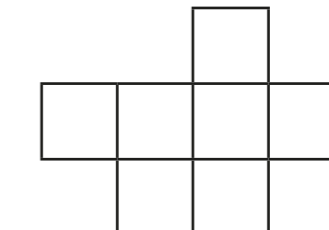
3 Match each net to its 3D shape.
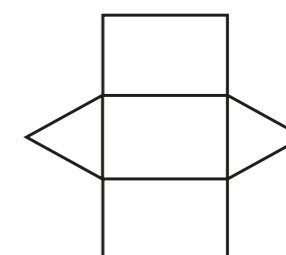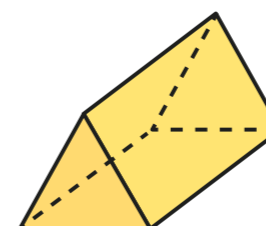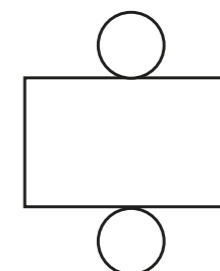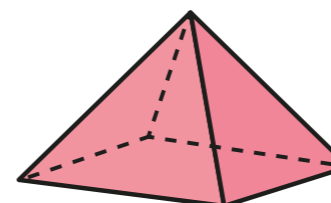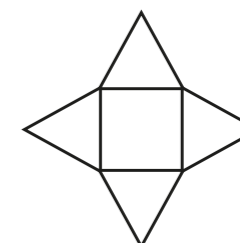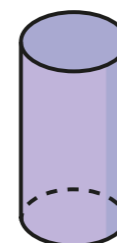
4 Complete the net of the cuboid.

3 cm
4 cm
2 cm

1 cm
1 cm
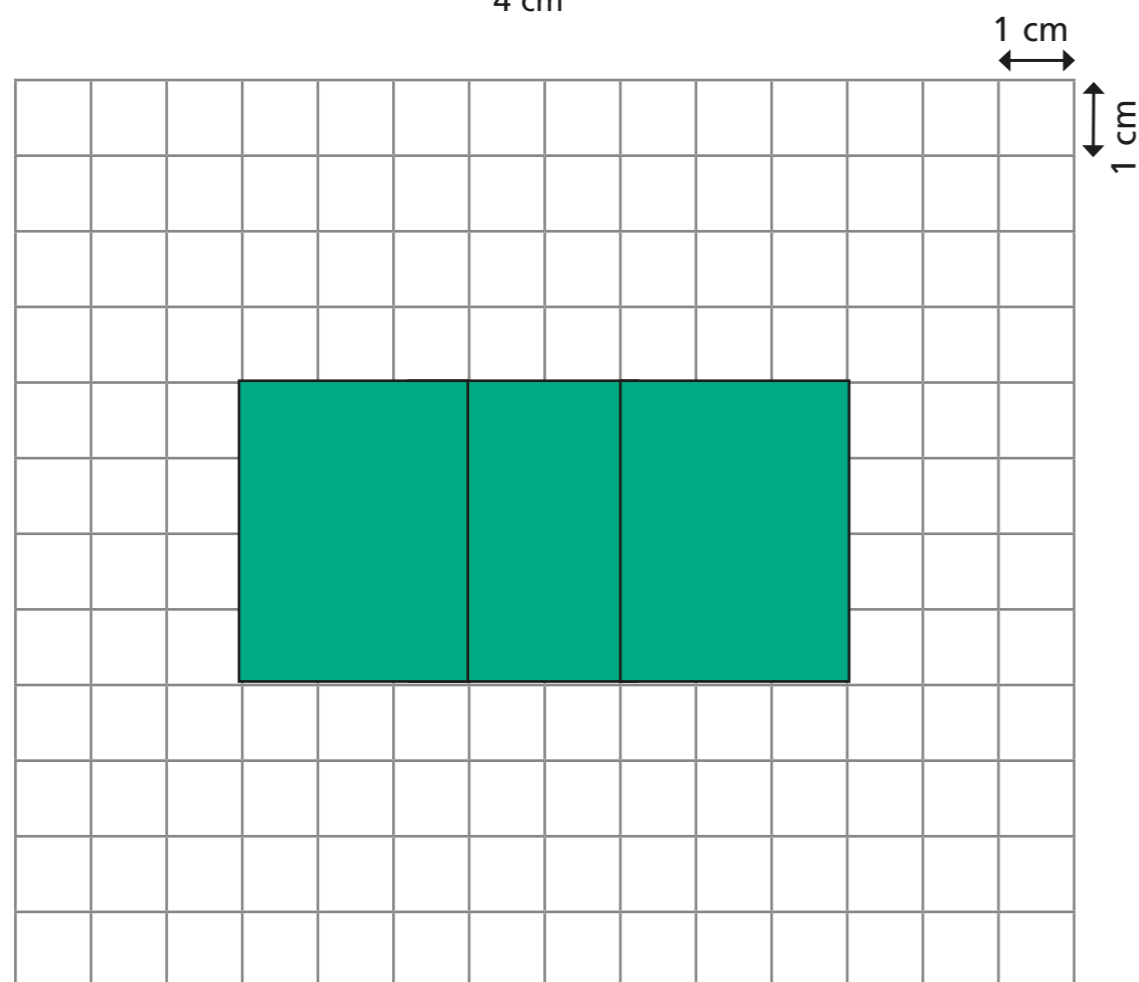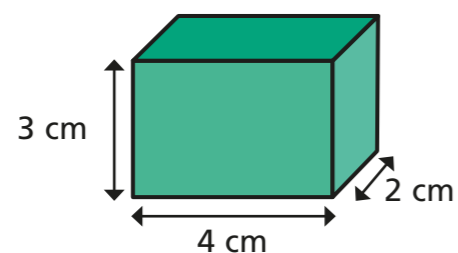
5 Here is the net of a cube.

The net is made into a cube.

Which two corners will meet the corner marked with ●?

Mark them with a cross.
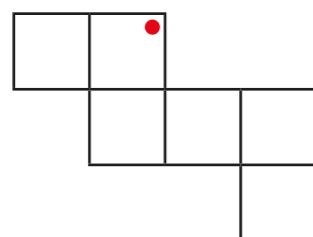
6 **a)** Complete a drawing of the net for the tetrahedron.
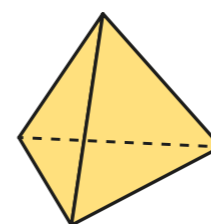
b) Draw the net of this hexagonal pyramid.
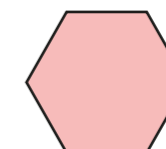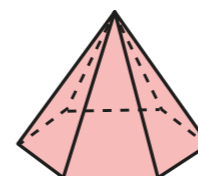
7 Which of these shapes is the net of a prism? Tick your answer.

Talk about your reasoning with a partner.
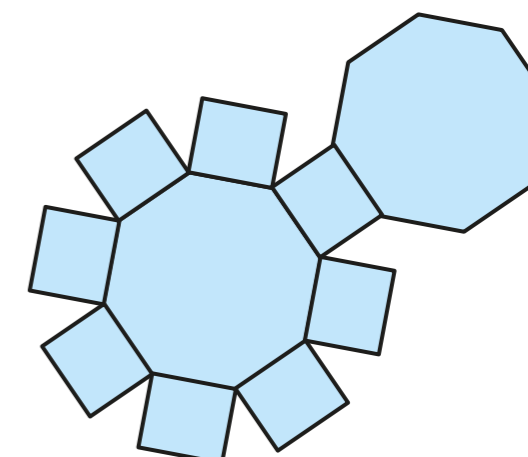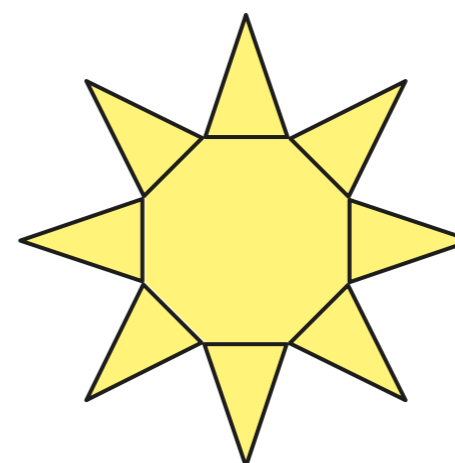
Circles

1 Use the words to label the parts of the circle.

| radius | diameter | circumference | centre |
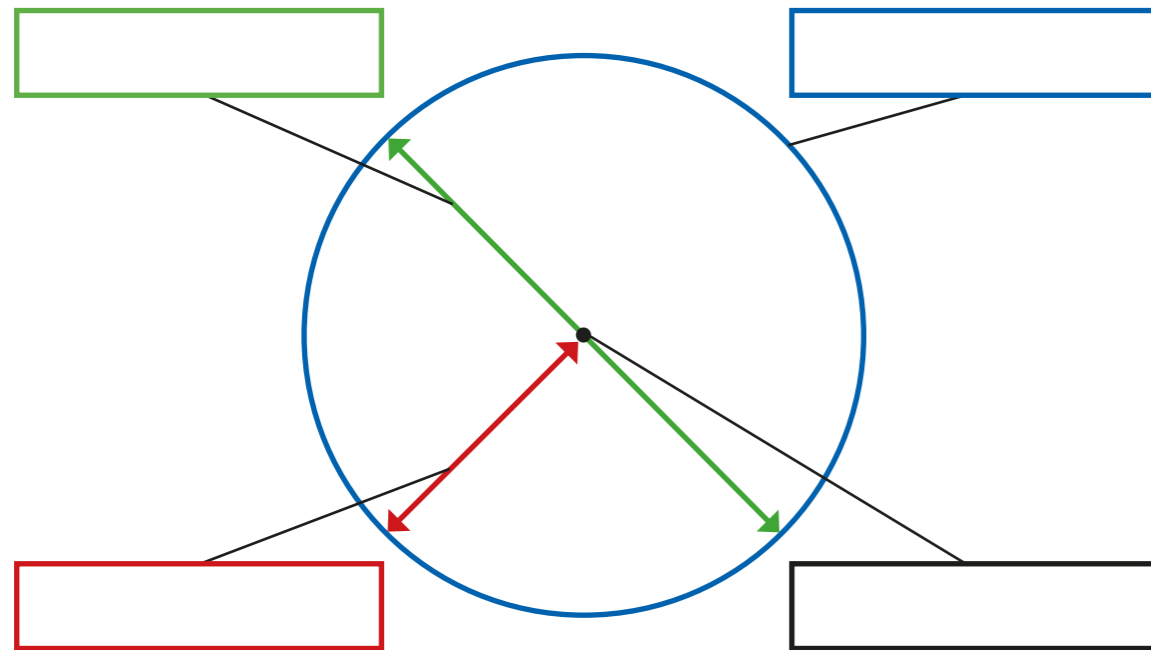
2 The radius has been marked on each circle.

A   B   C
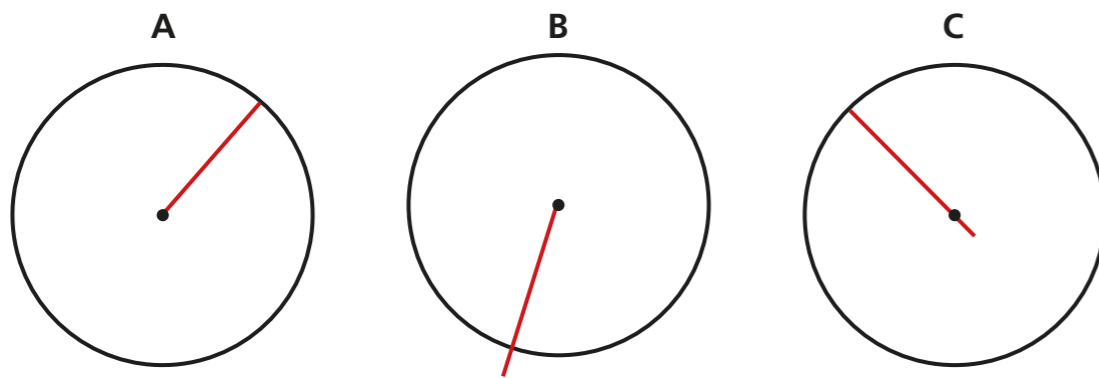
Is the statement true or false? _____

Explain your answer.

3 The diameter has been marked on each circle.

A   B   C
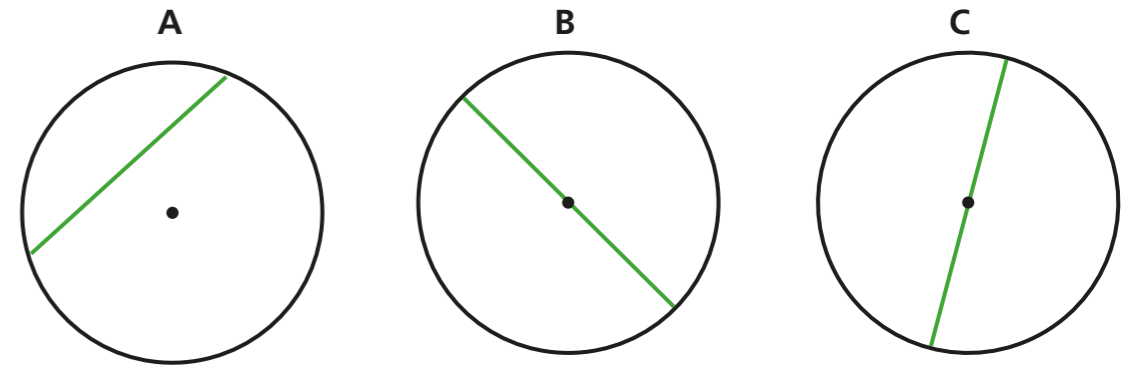
Is the statement true or false? _____

Explain your answer.

4
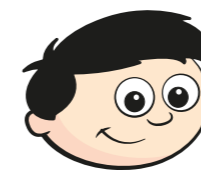
I know the radius of a circle is 12 cm, so the diameter must be 6 cm.

Do you agree with Dexter? _____

Explain your answer.

_____

_____

5 Complete the table.

Radius	Diameter
4 cm	
	12 m
	9 mm
3.5 km	
	12.6 cm

6 The two circles have the same centre.

6 cm

2 cm
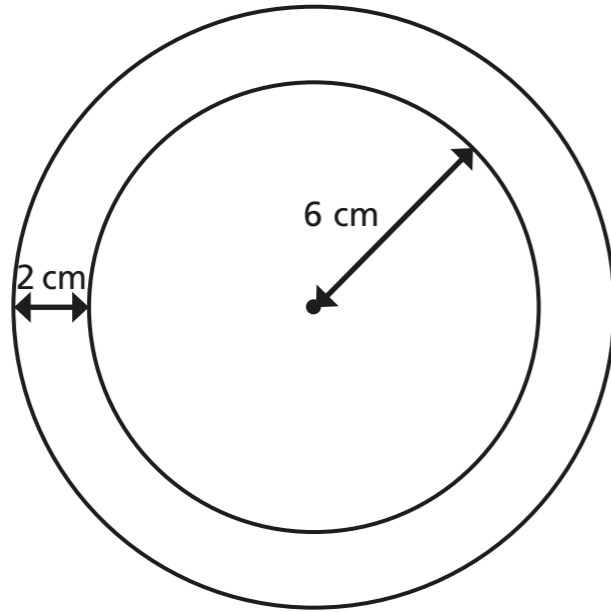
Complete the sentences.

The radius of the inner circle is ☐

The diameter of the inner circle is ☐

The radius of the outer circle is ☐

The diameter of the outer circle is ☐

7 Annie thinks she has accurately measured and labelled the diameter of the circle.

3 cm
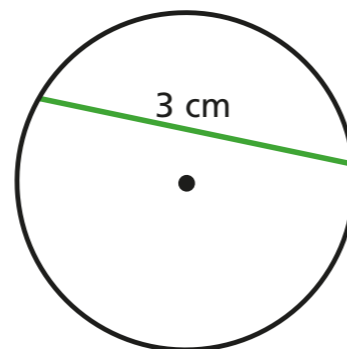
a) Is Annie correct? _____

Explain your answer.

_____

_____

b) Is the diameter greater or less than 3 cm?

Explain how you know to a partner.
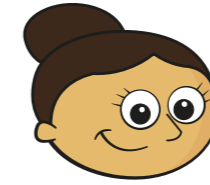
8 The diameter of a circle is always greater than the radius.

Is Dora correct? _____

Explain your answer.

_____

_____

9 Filip has a large circle with a diameter of 20 cm.

He also has several smaller circles with a radius of 2 cm.

He places the small circles along the diameter of the larger circle as shown.
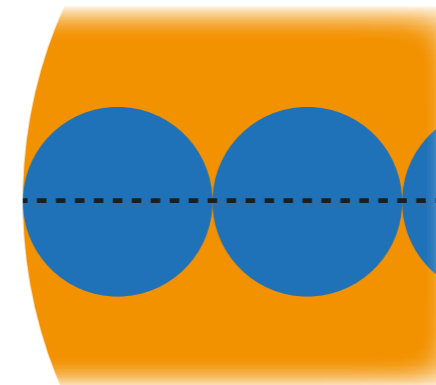
How many small circles will fit across the larger circle?

☐ small circles

1 The pie chart shows the favourite fruit of 48 children.

banana (B)
apple (A)
grapes (G)
orange (O)
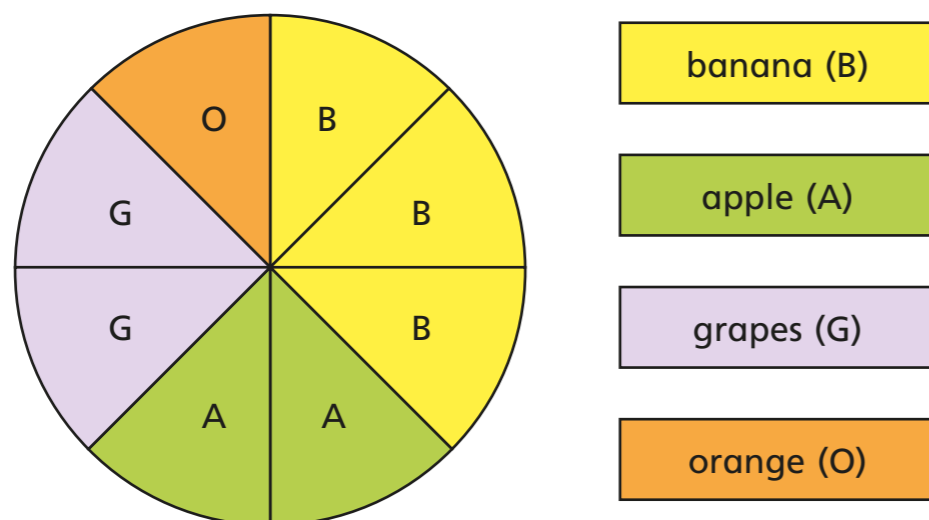
a) How many children chose banana?

b) How many children chose apple?

c) What fraction of the children chose orange?

d) What fraction of the children chose grapes?

2 A survey asked 1,200 people how many televisions they have in their home.

The results are shown in the pie chart.

1
2
3
4
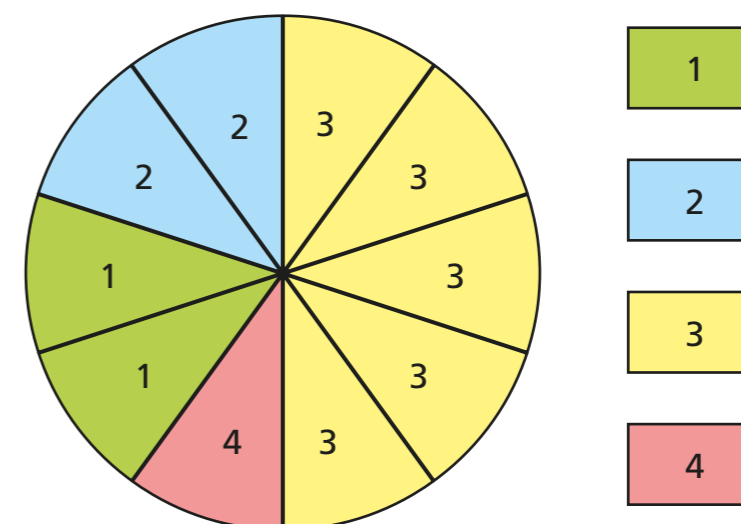
a) How many people have two televisions in their home?

[ ] people

b) How many people have more than two televisions in their home?

[ ] people

c) What fraction of the people have fewer than three televisions in their homes?

Give your answer in its simplest form.

3 Children from two schools were asked how they travel to school.

The results are shown in the pie charts.

Hockton Primary:
160 children

Turleton Academy:
320 children

car (C)

bike (B)

school bus (SB)

walk (W)
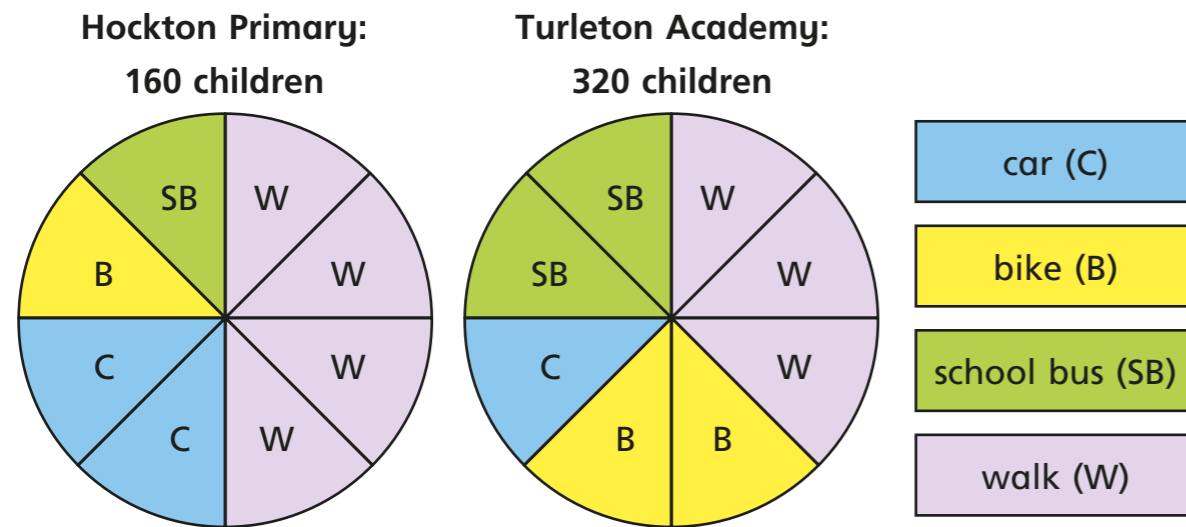
a)
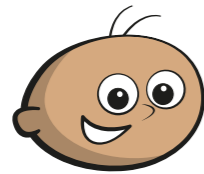
More children from Hockton Primary walk to school because more pieces show 'walk'.

Do you agree with Tommy? _____

Explain your answer.

_____

_____

b) How many children from each school travel by car?

Hockton Primary [ ]

Turleton Academy [ ]

4 A bag contains red, yellow and blue counters.

The pie chart shows the proportion of counters of each colour.
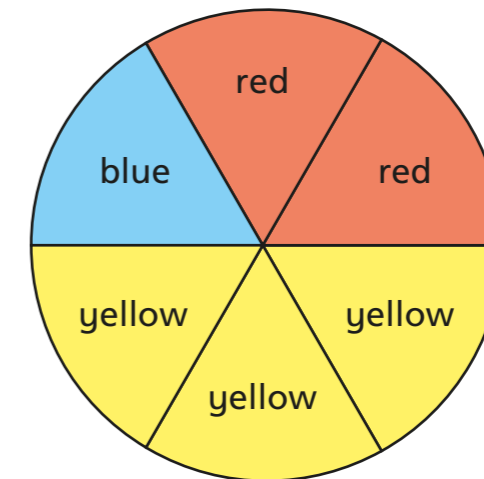
a) There are 30 red counters in the bag.

How many counters are in the bag in total?

[ ] counters

b) What is the difference between the number of blue counters and the number of yellow counters?

[ ] counters

c) Complete the sentences.

There are half as many _____ counters

as _____ counters.

There are three times as many _____ counters

as _____ counters.

The mean

1 Scott has 2 counters. ● ●

Dani has 7 counters. ● ● ● ● ● ● ●

Kim has 3 counters. ● ● ●

Share the counters evenly in order to find the mean number of counters.

The mean number of counters is [ ]

2 Find the mean of each set of numbers.

a)

| 3 | 2 | 7 | 4 | 4 |

[ ]

b)

| 12 | 8 | 15 | 11 | 6 | 2 |

[ ]

c)

| 5 | 2 | 2 | 9 | 7 | 5 | 6 | 5 | 3 | 7 |

[ ]

3 Huan collects football cards.

The table shows how many he collected over four years.

Year	Number of cards
2016	56
2017	104
2018	81
2019	103

Work out the mean number of cards collected per year.

[ ]

4 a) The mean of four numbers is 9

What is the total of the four numbers?

[ ]

b) Write an example of what the four numbers could be if none of them are 9

[ ] [ ] [ ] [ ]

Compare answers with a partner.

How many different solutions can you find?

5 The table shows how many pets a number of children have.

One value is missing.

Name	Number of pets
Brett	4
Nijah	0
Rosie	1
Teddy	2
Esther	
Tom	7

The mean number of pets is 3

How many pets does Esther have?

6 Six numbers are written on cards.

The mean of the numbers is 12

Fill in the two missing numbers if one is double the other.

| 13 | | 4 | 16 | 6 | |

7 A basketball team played four games.

The mean number of points was 45

a) How many points did they score in total in the four games?

b) After the fifth game, the mean increased to 50

How many points did they score in the fifth game?

8 A group of children have a mean height of 1.4 m.

Another child joins the group.

a) What will happen to the mean if the child is 1.5 m tall?

_____

_____

b) What will happen to the mean if the child is 1.4 m tall?

_____

_____

c) What will happen to the mean if the child is 1.3 m tall?

_____

_____

PRIME NUMBER CHALLENGE

Primes: between 1-100

Colour all the boxes containing PRIME
numbers with the same colour
A number will be revealed in your answer

Can you find 2 prime numbers that TOTAL
The number you have revealed?
How many solutions can you find?
How do you know?

21	67	89	57	9	71	47	53	11
37	15	35	31	81	13	77	21	45
79	63	27	89	39	41	87	15	93
81	61	37	49	91	99	43	97	87
83	91	99	29	25	51	27	77	73
41	87	33	83	21	75	39	91	17
67	57	27	23	35	53	51	33	61
49	79	59	57	91	9	19	31	49

111	199	123	129	147	193	143
181	125	131	183	173	196	197
109	189	129	177	139	141	157
149	163	199	143	103	195	197
191	115	151	187	127	159	107
181	175	137	183	191	187	179
117	113	189	165	161	193	155

Primes: between 100-200

Colour all the boxes containing a PRIME
number with the same colour
A number will be revealed in your answer

Can you find 2 prime numbers that TOTAL
The number you have revealed?
How many solutions can you find?
How do you know?

Remember: PRIME NUMBERS have only 2 factors (1 and themselves).