BRICKWORK Mathematics

Post learning assessment

Ratio and Proportion Year 6- Answers

4:8 Ratio & Proportion

1) In a pack of football stickers, the ratio of normal stickers to special edition stickers is 8:2.

Daniel has 10 special edition stickers. How many normal stickers does he have?

10 is 5 times larger than 2.
Children should use this fact to help with drawing or calculating and then notice that
5 x 8 = 40

40

2)The shop where the school order their pencils from has a deal. For every 80 pencils you order, you get a free pencil case. The school orders 600 pencils. How many pencil cases will they get?

80:1
8 x 7 = 56 80 x 7 = 560
8 x 8 = 64 80 x 8 = 640

Children should show understanding with links to multiples and the link with the 8 x table. They should also notice that there will be a remainder and that in the context this needs to be considered.

7

3) Answer these questions

a) 75% of 600 =

Children to work out $\frac{3}{4}$ of 600 by finding $\frac{1}{4}$ and x by 3 or taking the $\frac{1}{4}$ away. Some children may have completed written x method.

450

b) 32% of £30.00

Children to work out 10 % first and then x by 3.

Then 1% and x by 2 . these totals will be combined to give 32%

£9.60

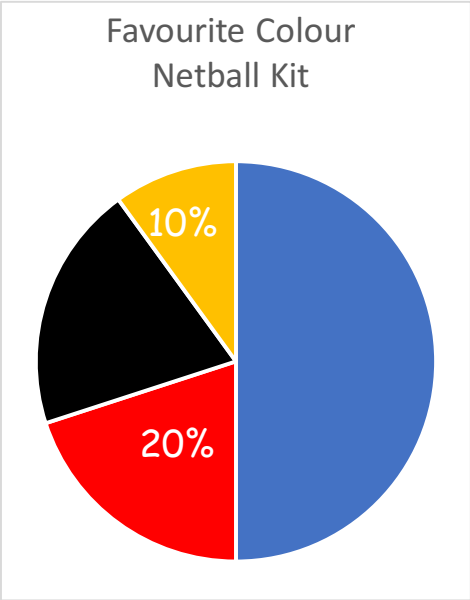
c) 15% x 320

children to understand the x symbol still means 15% of 320.

48

4)The school netball team asked year 5 children to vote for their favourite colour kit so that they could wear a new uniform. In year 5 there are 90 children.

How many children voted for black uniform?

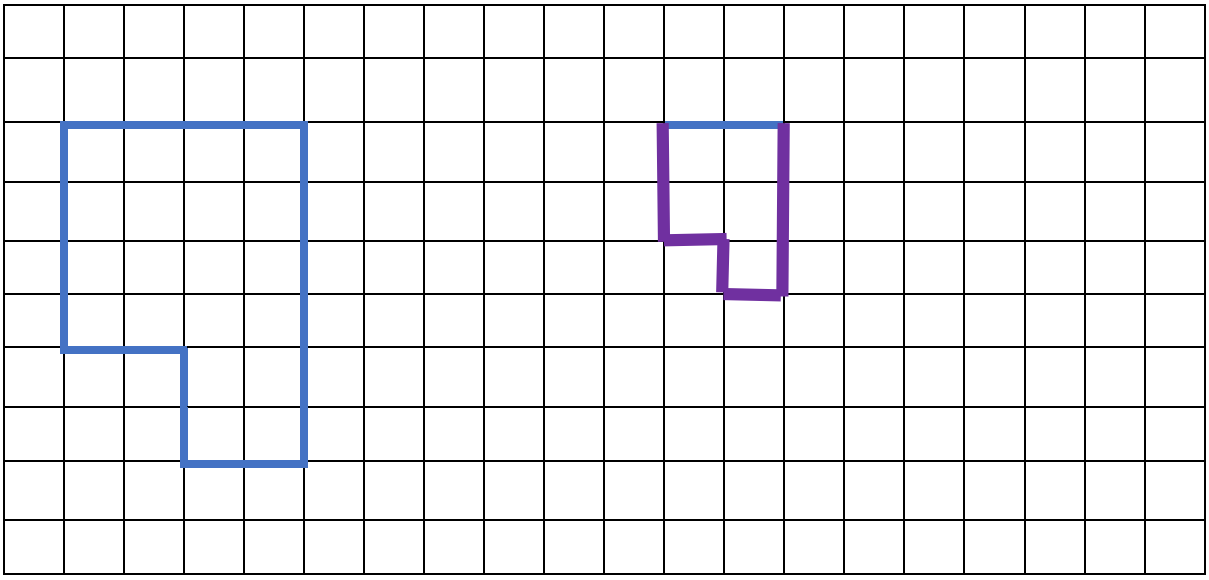


Children will show understanding that the black section is 20% of the pie chart by either noticing it is the same as the red section or demonstrating understanding that 50, 20 and 10 = 80. 100- 80 = 20

90 children
20% = 1/5 90 ÷ by 5 = 18
or 10 % = 9 so 20% = 18

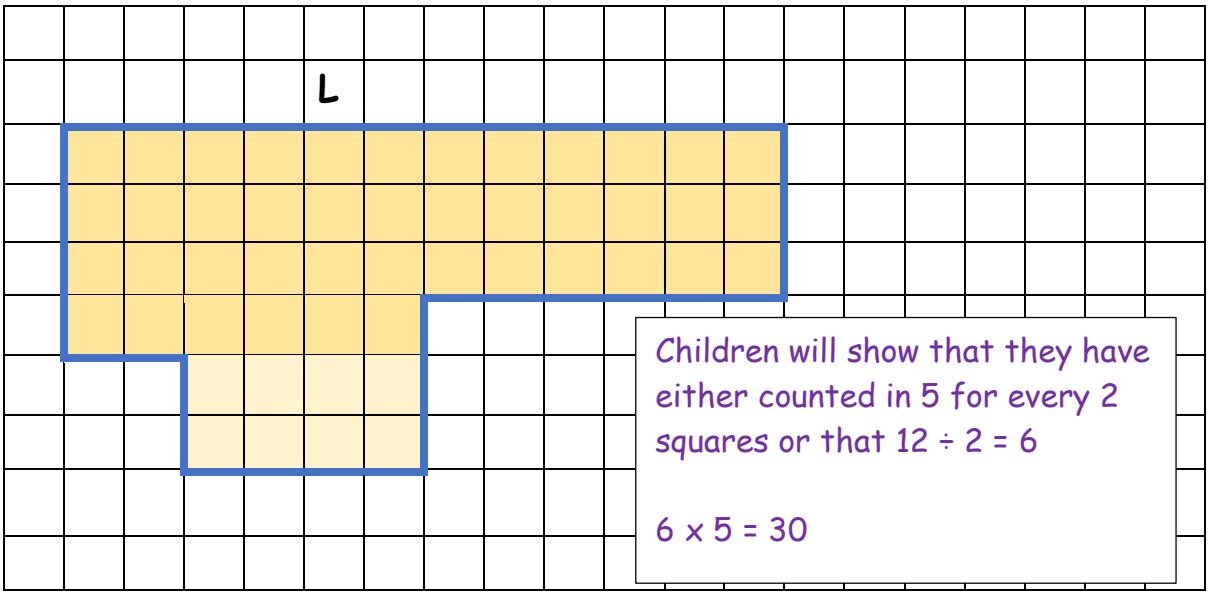
18 children

5)The design below is too large. Decrease the size of it using the scale factor 2:1. One line has been created to help you.



6)Here is a plan of a monkey enclosure in a zoo.
Use the scale factor to help you to work out the missing length.

=5m



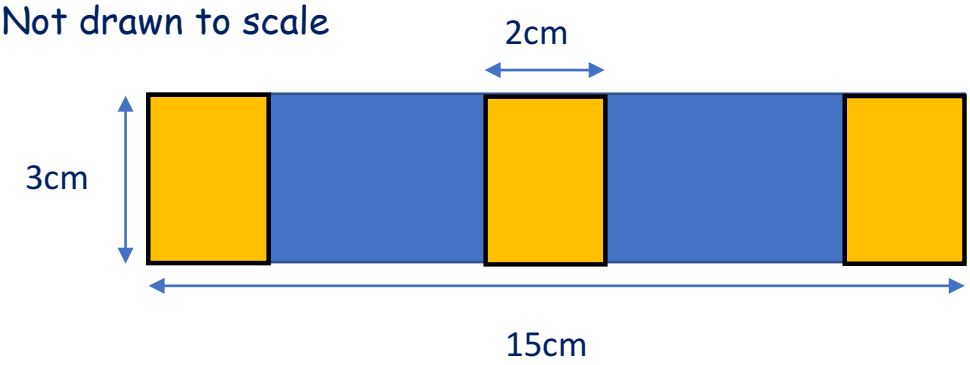
Children will show that they have either counted in 5 for every 2 squares or that 12 ÷ 2 = 6

6 x 5 = 30

L= 30m

7)This design has been created using 3 identical rectangles.

Not drawn to scale



Fill in the missing amounts

3cm

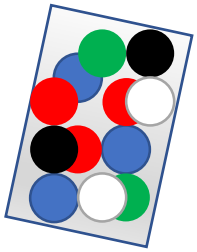
4.5cm

Working out :

15 – 3x2 = 9

9 ÷2 = 4.5 cm

8) Sophie buys a bag of counters. There are 50 in the bag.



There 14 red counters, 8 green counters, twice the number of blue counters than green counters and the same amount of black and white counters.

How many white counters are there?

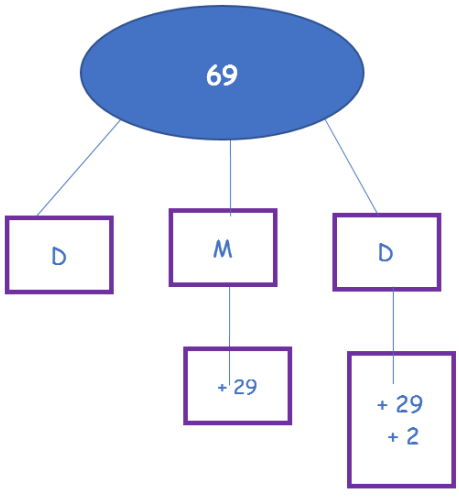
Children to show understanding that they can use the information about the red, green and blue counters to work out that there are 38 counters. Therefore 50 – 38 = 12
There are 12 black and white counters in the bag. 12 ÷ 2 = 6

White = 6

9)A family of 3 have the combined age of 69 years.

Darcey is 29 years younger than mum.
Dad is 2 years older than mum.

How old is each person?



Children will have shown calculations or jottings to show that they needed to take away the differences in the ages first so that this could be shared equally and then the differences to be added back on.

69 – (29 + 29 + 2) = 9

9 ÷3 = 3

Darcey= **3**

Mum= **32** (3+29)

Dad= **34** (3+29+2)

10) David wants to make a banana smoothie. The recipe that he has makes 750 ml of smoothie. He wants to make 1 litre.

Banana Smoothie

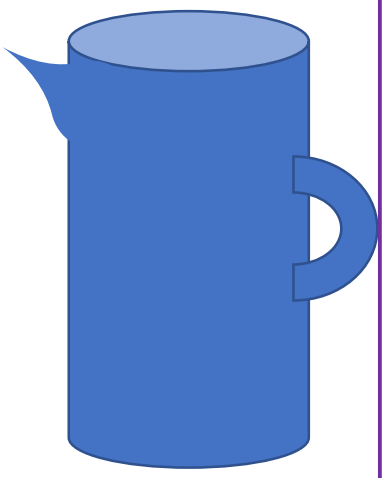
makes 750 ml

3 bananas

90g porridge oats

6 tablespoons natural yoghurt

600ml of water



10a) How many bananas does he need?

Needs another 250 ml to make 1000ml or 1l

250 is 1/3 of 750 so divide everything by 3

3 ÷ 3 = 1 so 1 more banana is needed 3 + 1

Also asses if the child understanding that 1000ml is 1l to assess if the error is with measure or the problem.

4

10b) How much water does he need?

Needs another 250 ml to make 1000ml or 1l

250 is 1/3 of 750 so divide everything by 3

600 ÷ 3 = 200 600 ml + 200ml = 800ml

800ml