1 Work out the missing values

$\frac{2}{5}$ of 30 = 3 × ☐

$\frac{7}{10}$ of 30 = $\frac{3}{4}$ of ☐

2 Here is a number card

A quarter of the card is 14

Find $\frac{2}{7}$ of the card.

3 Sarah has some cookies in a jar.

In January she eats $\frac{5}{8}$ of the cookies.

There are 12 cookies left in the jar.

How many were in the jar at the start?

1 $\frac{1}{2}$ of **A** = **B**

25% of **B** = **C**

If **A** is 36 find the value of **C**

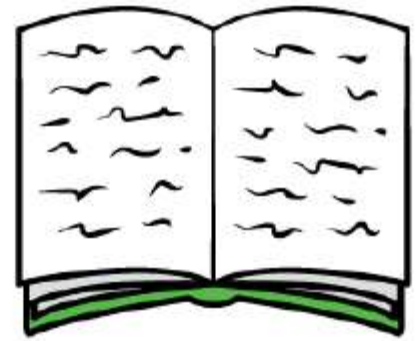
2 25% of **P** = **Q**

$\frac{1}{5}$ of **Q** = **R**

10% of **R** = 7

Calculate **P** + **R**

3 Geoff is reading a book.



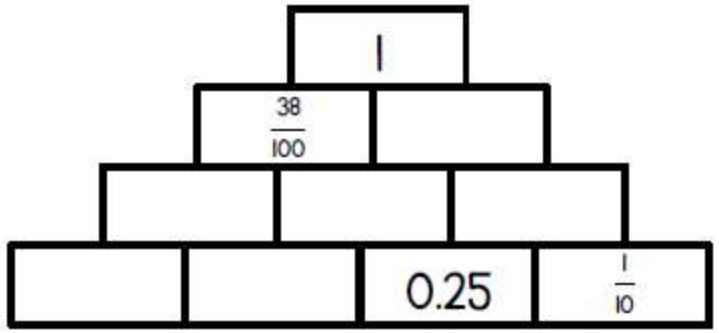
On Monday he reads $\frac{1}{3}$ of the book.

On Tuesday he reads $\frac{3}{10}$ of the remaining pages.

He has 35 pages left to read.

How many pages are in the book?

1

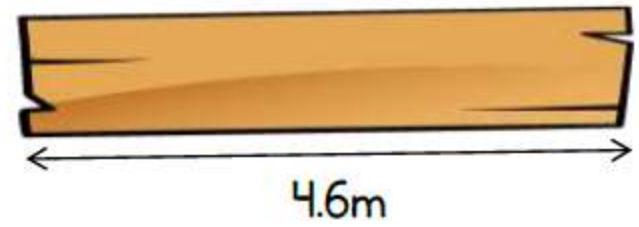


In the pyramid the two numbers below add to the make the number above.

Complete the number pyramid.

Can you write all of your answers as fractions in their simplest form?

2 A plank of wood is 4.6 metres long.



Three lengths of wood are cut from the plank.

$1\frac{1}{4}$ m	165cm	390mm

How much wood is left?

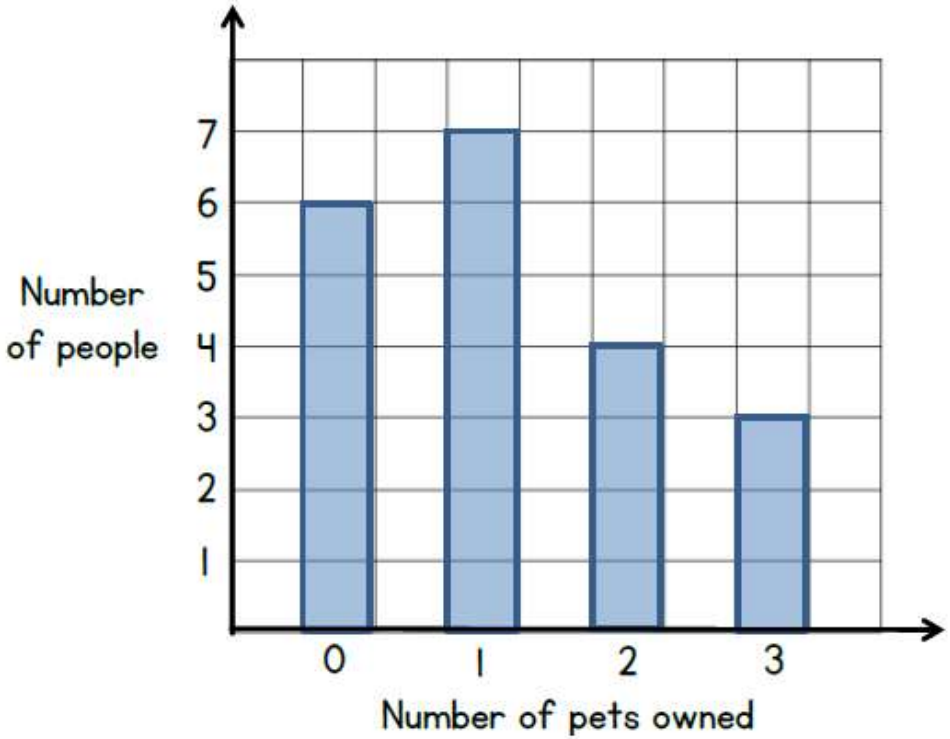
Statistics Problems

1 Class 6 are doing a survey.

They ask 20 people this question.

"How many pets do you own?"

The results are shown in this bar chart.



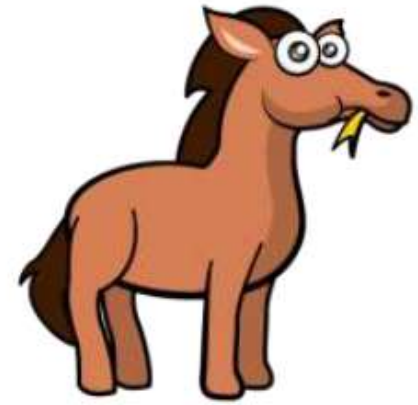
How many pets in total do these people own?

2 Here are the heights of three horses.

160cm	$1\frac{1}{2}$ m	1.73m

What is the mean height?

Tino is another horse.



The mean height of all four horses is 1.62m

Find the height of Tino.

1 Two friends buy some chocolate bars.

Each bar cost £1.18

There is a special offer on.

Buy one bar, get a second half price

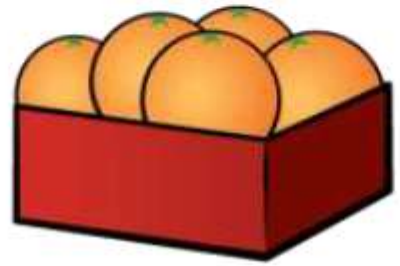
They buy 5 bars and split the cost equally.

How much do they each pay?

2 A shop owner buys oranges in boxes of 5

She buys 8 boxes of oranges.

The cost of each box is £2.40



The owner sells the oranges separately.

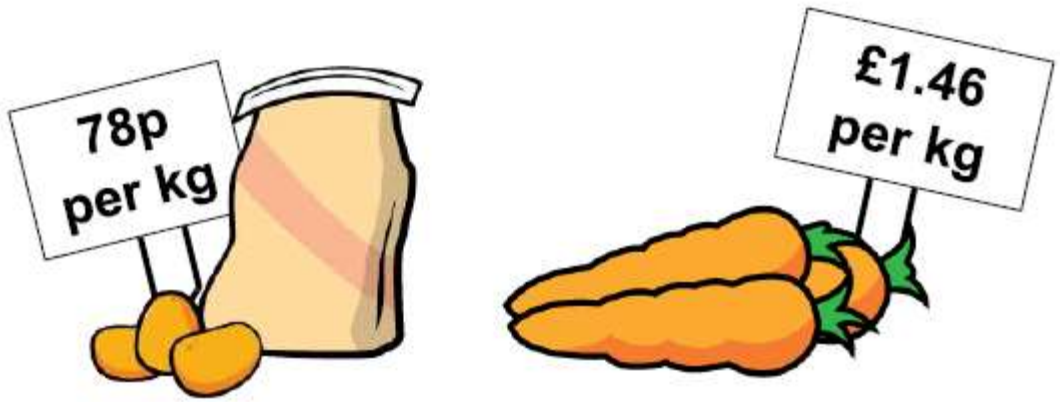
She sells them for 70 pence each.

By the end of the week she sells $\frac{9}{10}$ of the oranges.

How much profit has she made?

1 Laura buys:

- 3kg of potatoes
- and 2.5kg of carrots.



She pays with a £20 note.

How much change does she get?

2 Here are two number cards.

Here is some information about the cards.

When you divide A by B you get 1.5

The difference between A and B is 7

Find the value of A and B.

1 The symbol ☆ means

Double the first number and then subtract the second number

e.g. $5 \star 2 = 8$

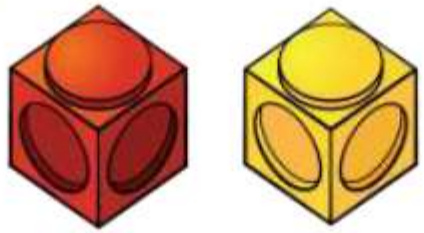
Find the missing values

$\frac{2}{5} \star \frac{3}{10} = \square$

$2 \star \square = 2\frac{1}{4}$

$\left(\frac{3}{4} \star \frac{1}{2}\right) \star 3\frac{2}{5} = \square$

2 Maz and Fred each make a tower using red and yellow cubes.



Their towers are the same height.

- $\frac{3}{8}$ of Maz's tower are red cubes
- $\frac{5}{6}$ of Fred's tower are red cubes

Maz uses 9 red cubes.

How many red cubes does Fred use?

MathsHUBS

Mastery	Mastery with Greater Depth
Sam added two fractions together and got $\frac{7}{8}$ as the answer. Write down two fractions that Sam could have added. Tom wrote down two fractions. He subtracted the smaller fraction from the larger and got $\frac{1}{5}$ as the answer. Write down two fractions that Tom could have subtracted. Tom and Sam shared equally one third of a chocolate bar. What fraction of the chocolate bar did each child get?	Roland cuts a sandwich into two pieces. First, Roland gives one piece to Ayat and the other piece to Claire. Then Claire gives Ayat half of her piece. Now Ayat has $\frac{7}{8}$ of the original sandwich. Did Roland cut the sandwich into two equal pieces? If not, how did he cut the sandwich?
Last month Kira saved $\frac{3}{5}$ of her £10 pocket money. She also saved 15% of her £20 birthday money. How much did she save altogether?	Jakob says to Peter, 'Last month I saved 0·5 of my pocket money and this month I saved $\frac{1}{3}$ of my pocket money, so altogether I've saved 40% of my pocket money'. Do you think Peter should agree with Jakob? Explain your decision.
What's the same, and what's different about these number statements? Double one third of 15 One third of 30 2×5 $15 \times 2 \div 3$ $15 \div 3 \times 2$ $15 \times \frac{2}{3}$	Amira says, 'To work out a fraction of a number, you multiply the number by the numerator of the fraction and then divide the answer by the denominator of the fraction.' Do you think that this is always, sometimes or never true? Explain your reasoning.