

Know and use mental arithmetic strategies for fractions

1 Work out the calculations mentally.

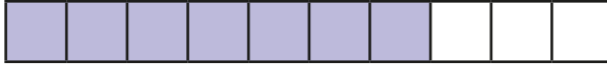
You may use the bar models to help you.

a) $\frac{1}{5}$ of 30 kg = kg 

b) $\frac{1}{6}$ of £12 = £ 

c) $\frac{1}{8}$ of 72 ml = ml 

d) $\frac{2}{5}$ of 60 fish = fish 

e) $\frac{7}{10}$ of £210 = £ 

2 Work out the amounts.

a) $\frac{1}{2}$ of £10 = £

b) $\frac{1}{4}$ of £10 = £

c) $\frac{1}{8}$ of £10 = £

Explain your method to a partner.



3 Show two different methods you could use to work out this calculation mentally.

$\frac{7}{8}$ of £40

Method 1

Method 2

4 Work out these problems mentally.

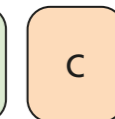
a) Here is a number card.



$\frac{2}{3}$ of A is 6

What is $\frac{1}{2}$ of A?

b) Here are two more number cards.



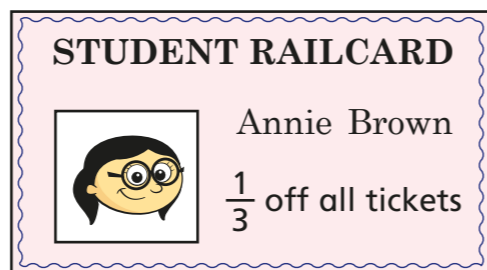
$\frac{1}{4}$ of B is 10

$\frac{3}{5}$ of C is 9

What is the difference between B and C?

c) What is the range of A, B and C?

- 5 Annie has a rail discount card.
The price of a ticket from Leeds to London is £39
Annie uses her discount card.
She is charged £26
Annie thinks she should have been charged £13
What mistake has Annie made?



- 6 In a sale, there is $\frac{1}{5}$ off all clothing.



How much do each of these items cost in the sale?

The jumper is £ in the sale.

The T-shirt is £ in the sale.

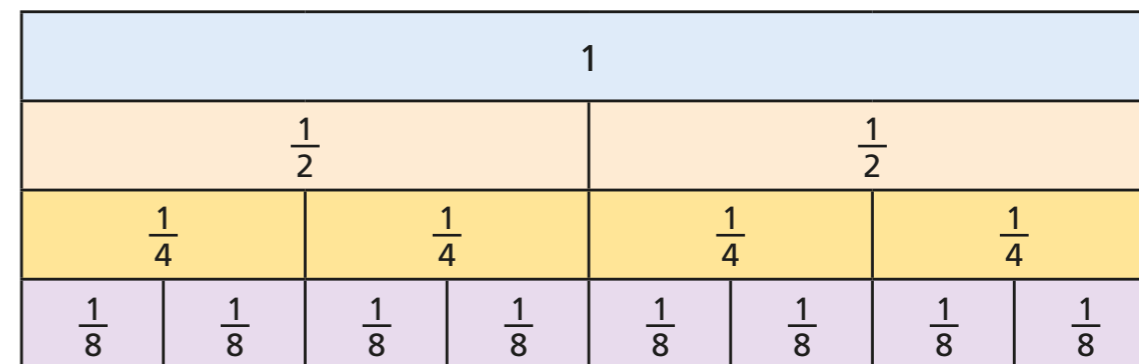
- 7 $\frac{1}{2}$ of a number is 36

What is $\frac{1}{4}$ of the number?

Explain to a partner how you worked this out.



- 8 Add the fractions mentally.
You may use the fraction wall to help you.



- a) $\frac{1}{2} + \frac{1}{4} =$ c) $\frac{1}{4} + \frac{1}{8} =$ e) $\frac{7}{8} - \frac{1}{4} =$
 b) $\frac{1}{2} + \frac{3}{8} =$ d) $\frac{7}{8} - \frac{1}{2} =$ f) $\frac{1}{2} - \frac{1}{4} =$

- 9 Work out the calculations in your head.

- a) $\frac{1}{5} + \frac{1}{10} =$ c) $\frac{7}{10} - \frac{1}{5} =$
 b) $\frac{2}{5} + \frac{3}{10} =$ d) $1 - \frac{1}{5} - \frac{1}{10} =$

- 10 Work out the amounts.

- a) $\frac{1}{10}$ of £750 = b) $\frac{1}{100}$ of 600 kg =
 $\frac{1}{10}$ of £75 = $\frac{1}{100}$ of 60 kg =
 $\frac{1}{10}$ of £7.50 = $\frac{1}{100}$ of 6 kg =
 $\frac{1}{10}$ of 75p =

Discuss your method and any patterns you notice with a partner.

