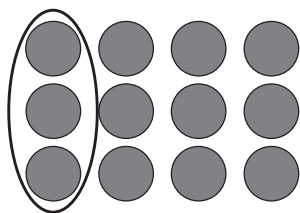# Working with fractions – fractions of a collection

Finding a fraction of different amounts is like division. Look at this array of dots. Finding one quarter is the same as dividing 12 by 4.
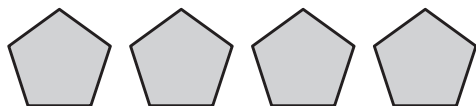
$12 \div 4 = 3$

$\frac{1}{4}$ of 12 = 3

1 Circle the fraction given for each group and complete the statements:

a $\frac{1}{2}$ of 4 pentagons

$\boxed{} \div \boxed{} = \boxed{}$

$\frac{1}{2}$ of $\boxed{} = \boxed{}$

b $\frac{1}{4}$ of 8 stars

$\boxed{} \div \boxed{} = \boxed{}$

$\frac{1}{4}$ of $\boxed{} = \boxed{}$

c $\frac{1}{4}$ of 12 triangles

$\boxed{} \div \boxed{} = \boxed{}$
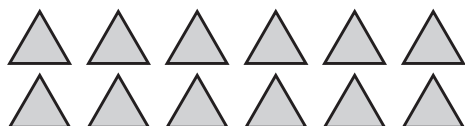
$\frac{1}{4}$ of $\boxed{} = \boxed{}$

2 Shade $\frac{1}{3}$ of these grids and complete the statements. The first one has been done for you.

a

$\boxed{6} \div \boxed{3} = \boxed{2}$

$\frac{1}{3}$ of $\boxed{6} = \boxed{2}$

b

$\boxed{} \div \boxed{} = \boxed{}$

$\frac{1}{3}$ of $\boxed{} = \boxed{}$

c

$\boxed{} \div \boxed{} = \boxed{}$
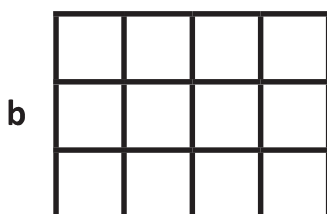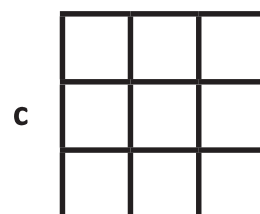
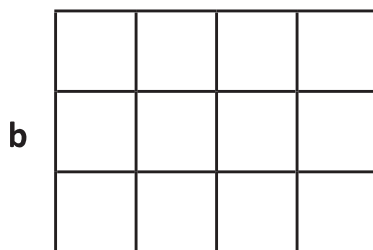$\frac{1}{3}$ of $\boxed{} = \boxed{}$

Fractions

Working with fractions – fractions of a collection

3 Shade $\frac{1}{4}$ on these grids and complete the statements:

a

b

c

□ ÷ □ = □
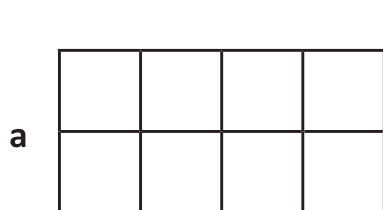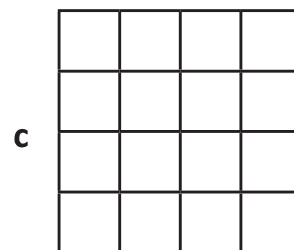
$\frac{1}{4}$ of □ = □

□ ÷ □ = □

$\frac{1}{4}$ of □ = □

□ ÷ □ = □

$\frac{1}{4}$ of □ = □

4 Shade $\frac{1}{5}$ on these grids and complete the statements:

a

b

c

□ ÷ □ = □
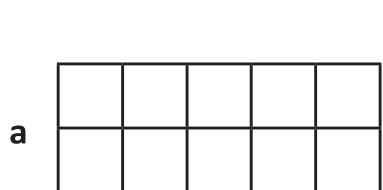
$\frac{1}{5}$ of □ = □

□ ÷ □ = □
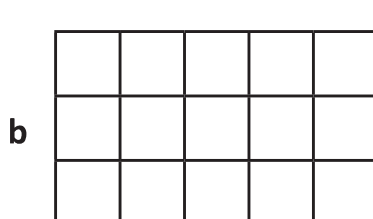
$\frac{1}{5}$ of □ = □

□ ÷ □ = □
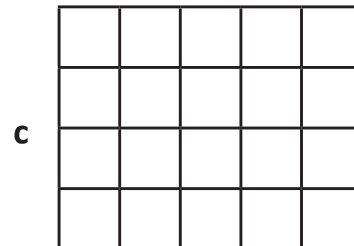
$\frac{1}{5}$ of □ = □

5 Find the fractions of these numbers:
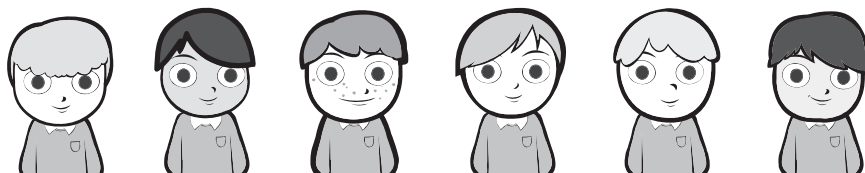
a $\frac{1}{2}$ of 8 = □

b $\frac{1}{4}$ of 12 = □

c $\frac{1}{3}$ of 9 = □

d $\frac{1}{5}$ of 15 = □

e $\frac{1}{8}$ of 16 = □

f $\frac{1}{4}$ of 20 = □

6 Complete this picture to show that $\frac{2}{3}$ of these boys are wearing hats:

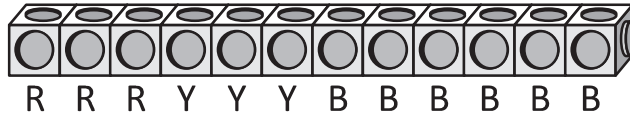First work out what $\frac{1}{3}$ of 6 is then times by 2.

THINK

Working with fractions – fractions of a collection

Josie connected 12 cubes. $\frac{1}{4}$ were red, $\frac{1}{4}$ were yellow and the rest were blue. What fraction of the whole were blue?

$\frac{6}{12}$ or $\frac{1}{2}$

Red: $\frac{1}{4}$ of 12 = 3   Yellow: $\frac{1}{4}$ of 12 = 3   Blue = 6

R R R Y Y Y B B B B B

7 **Answer these cube problems:**

a Amy connected 8 cubes. $\frac{1}{2}$ were green, $\frac{1}{4}$ were red and the rest were blue.

How many were blue? ☐   Green: $\frac{1}{2}$ of 8 = ☐   Red: $\frac{1}{4}$ of 8 = ☐

b Joel connected 16 cubes. $\frac{1}{2}$ were blue, $\frac{1}{4}$ were orange and the rest were purple.

How many were purple? ☐   Blue: $\frac{1}{2}$ of 16 = ☐   Orange: $\frac{1}{4}$ of 16 = ☐

c Natalie connected 20 cubes. $\frac{1}{4}$ were yellow, $\frac{1}{5}$ were green and the rest were orange.

How many were orange? ☐   Yellow: $\frac{1}{4}$ of 20 = ☐   Green: $\frac{1}{5}$ of 20 = ☐

8 **Amber scattered a packet of 24 Smarties on her desk to see how many blue ones there were. Below is a list of what was in the packet. Shade them as shown:**

a $\frac{1}{4}$ were red   = ☐

b $\frac{1}{8}$ were pink   = ☐

c $\frac{1}{3}$ were yellow = ☐

d $\frac{1}{6}$ were green = ☐

e The rest were blue. How many were blue? ☐

E **SERIES**   1 **TOPIC**

Fractions
Copyright © 3P Learning