Fractions of integers

- Using a diagram to multiply a fraction by an integer
- Multiplying a fraction by an integer without a diagram
- Cancelling when multiplying a fraction by an integer

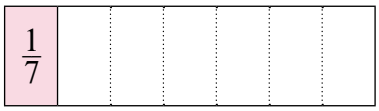
Keywords

You should know

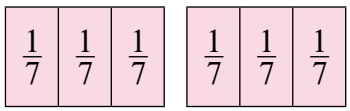
explanation 1a | explanation 1b

1 Copy and complete the fraction calculations to match the diagrams.

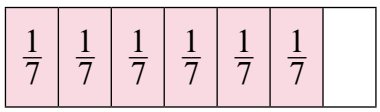
a



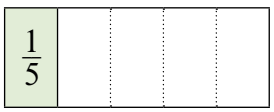
$\square \times \frac{\square}{7}$



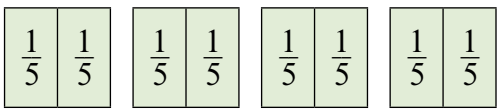
$= \frac{\square}{7}$



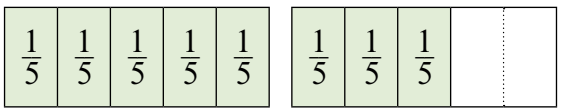
b



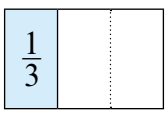
$\square \times \frac{\square}{5}$



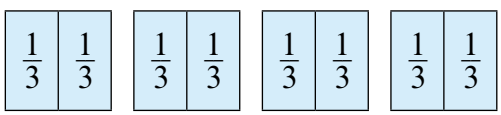
$= \square\frac{\square}{5}$



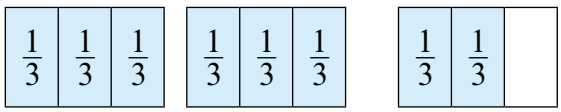
c



$\square \times \frac{2}{\square} = \frac{\square}{\square}$



$= \square\frac{\square}{\square}$



2 Copy and complete.

a $2 \times \frac{3}{7} = \frac{\square \times \square}{7}$

$= \frac{\square}{7}$

b $4 \times \frac{2}{5} = \frac{\square \times \square}{5}$

$= \frac{\square}{5}$

$= \square \frac{\square}{5}$

c $2 \times \frac{4}{9} = \frac{\square \times \square}{9}$

$= \frac{\square}{9}$

d $3 \times \frac{5}{8} = \frac{\square \times \square}{8}$

$= \frac{\square}{8}$

$= \square \frac{\square}{8}$

3 Work out these fractions.

a $2 \times \frac{2}{3}$ **b** $3 \times \frac{4}{7}$ **c** $5 \times \frac{3}{8}$

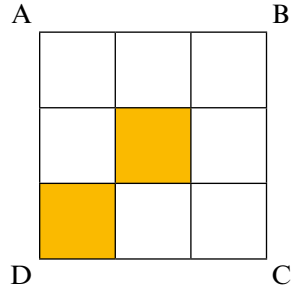
d $4 \times \frac{5}{9}$ **e** $\frac{3}{5}$ of 6 **f** $9 \times \frac{1}{3}$

g $\frac{2}{11}$ of 12 **h** $9 \times \frac{3}{10}$ **i** $\frac{4}{17}$ of 5

4 A snail, travelling at top speed, can cover about $\frac{2}{3}$ m in one hour.
How far would a snail travel in four hours at this speed?

5 A drinks supplier sells $\frac{3}{4}$ million cans of fizzy drink each day.
How many cans are sold in five days?

6 This square ABCD has area 14 cm^2.
Work out the area of the shaded part.



explanation 2 online

7 Copy and complete.

a $12 \times \frac{5}{8} = \frac{\cancel{12} \times 5}{\cancel{8}_{2}}$ $\square$

$= \frac{\square}{\square}$

$= \square \frac{\square}{\square}$

b $\frac{7}{16} \times 20 = \frac{7 \times \cancel{20}^{5}}{\cancel{16}}$ $\square$

$= \frac{\square}{\square}$

$= \square \frac{\square}{4}$

8 Work out these fractions.

a $\frac{9}{16} \times 24$ **b** $27 \times \frac{11}{18}$ **c** $8 \times \frac{9}{20}$

d $30 \times \frac{7}{25}$ **e** $\frac{3}{14}$ of 21 **f** $\frac{5}{24}$ of 32

9 $\frac{7}{40}$ of the cost of an item is paid as VAT. Calculate the VAT paid on these amounts.

a £60 **b** £20 **c** £24

d £8 **e** £30 **f** £50

10 A grizzly bear may eat up to $\frac{3}{20}$ of its body weight in salmon each day.
How much salmon do bears of these weights eat?

a 100 kg **b** 150 kg **c** 250 kg

***11** Use the formula $F = ma$ to find the value of F.

a $m = 10$ and $a = \frac{3}{4}$ **b** $m = 25$ and $a = \frac{7}{10}$ **c** $m = \frac{2}{3}$ and $a = 60$

***12** Use the formula $v = u + at$ to find v.

a $u = 12$, $a = \frac{3}{5}$ and $t = 15$ **b** $u = 3$, $a = \frac{7}{8}$ and $t = 20$

c $u = 10$, $a = \frac{7}{100}$ and $t = 50$ **d** $u = -1$, $a = 6$ and $t = \frac{3}{4}$