Planner

Fractions (2)

- Using a diagram to multiply a fraction by a whole number
- Multiplying a fraction by a whole number without a diagram

Keywords

You should know

explanation 1

1 Explain how you can work out that $\frac{15}{4} = 3\frac{3}{4}$.

2 Write these improper fractions as mixed numbers.

a $\frac{10}{3}$ **b** $\frac{7}{4}$ **c** $\frac{16}{5}$ **d** $\frac{21}{8}$ **e** $\frac{45}{11}$ **f** $\frac{37}{10}$

3 Explain how you can work out that $3\frac{2}{3} = \frac{11}{3}$.

4 Write these mixed numbers as improper fractions.

a $1\frac{2}{5}$ **b** $2\frac{2}{3}$ **c** $1\frac{3}{8}$ **d** $3\frac{1}{6}$ **e** $4\frac{1}{3}$ **f** $5\frac{3}{10}$

explanation 2

5 Work these out.

a **i** $\frac{1}{5}$ of 30 **ii** $\frac{2}{5}$ of 30 **iii** $\frac{3}{5}$ of 30

b **i** $\frac{1}{10}$ of 80 **ii** $\frac{3}{10}$ of 80 **iii** $\frac{7}{10}$ of 80

c **i** $\frac{1}{7}$ of 21 **ii** $\frac{2}{7}$ of 21 **iii** $\frac{5}{7}$ of 21

d **i** $\frac{1}{12}$ of 48 **ii** $\frac{5}{12}$ of 48 **iii** $\frac{11}{12}$ of 48

6 Find the number of hours in these fractions of a day.

a $\frac{1}{2}$ **b** $\frac{1}{4}$ **c** $\frac{3}{4}$ **d** $\frac{1}{3}$ **e** $\frac{2}{3}$

f $\frac{1}{8}$ **g** $\frac{3}{8}$ **h** $\frac{1}{6}$ **i** $\frac{5}{6}$ **j** $\frac{7}{12}$

7 What are the missing numbers?

a $\frac{\square}{5}$ of 20 = 16 **b** $\frac{\square}{10}$ of 80 = 24 **c** $\frac{\square}{3}$ of 24 = 16

d $\frac{\square}{8}$ of 32 = 20 **e** $\frac{\square}{4}$ of 60 = 45 **f** $\frac{\square}{9}$ of 36 = 8

g $\frac{\square}{7}$ of 35 = 15 **h** $\frac{\square}{8}$ of 40 = 25 **i** $\frac{\square}{12}$ of 36 = 15

8 Work out these calculations. Give your answers as mixed numbers.

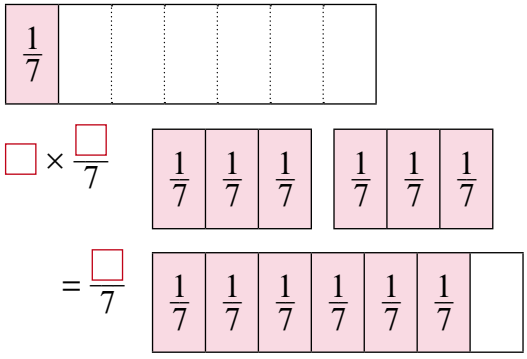
a $\frac{1}{4}$ of 13 **b** $\frac{1}{3}$ of 26 **c** $\frac{1}{5}$ of 28

d $\frac{1}{6}$ of 32 **e** $\frac{1}{7}$ of 30 **f** $\frac{1}{8}$ of 44

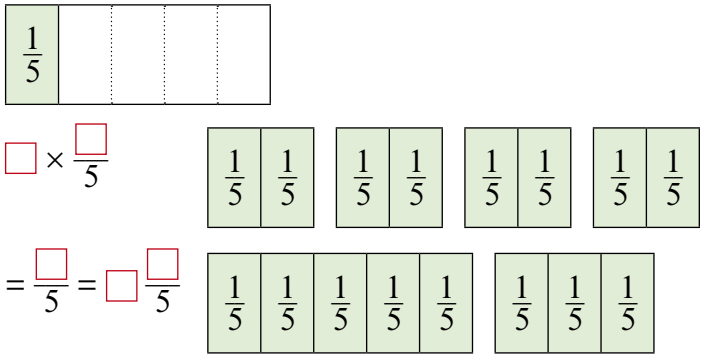
explanation 3 online

9 Copy and complete these fraction calculations to match the diagrams.

a

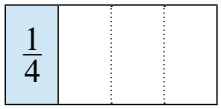


b

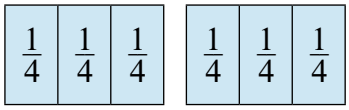


10 Copy and complete these fraction calculations to match the diagrams.

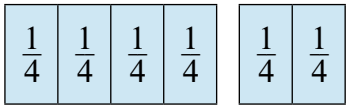
a



$\square \times \frac{\square}{4}$

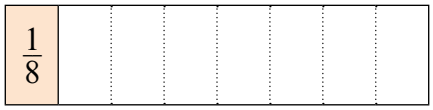


$= \frac{\square}{4} = \square\frac{\square}{4}$

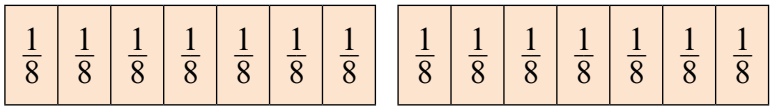


$= \square\frac{\square}{2}$

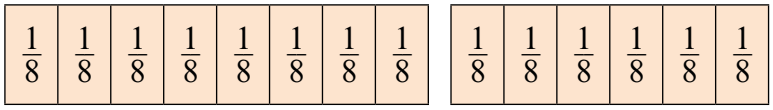
b



$\square \times \frac{\square}{8}$



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



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

11 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 $3 \times \frac{5}{8} = \frac{\square \times \square}{8}$

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

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

12 Copy and complete.

a $6 \times \frac{3}{4} = \frac{\square \times \square}{4}$

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

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

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

b $6 \times \frac{5}{8} = \frac{\square \times \square}{8}$

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

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

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

c $8 \times \frac{5}{6} = \frac{\square \times \square}{6}$

$= \frac{\square}{6}$

$= \square \frac{\square}{6}$

$= \square \frac{\square}{3}$

13 Work these out.

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** $\frac{3}{5} \times 6$ **f** $9 \times \frac{1}{3}$

g $\frac{2}{5} \times 12$ **h** $9 \times \frac{3}{10}$ **i** $\frac{4}{7} \times 5$

14 A snail, travelling at top speed, can cover about $\frac{2}{3}$ m in 1 hour.

How far would a snail travel in 4 hours at this speed?

15 A bakery uses $\frac{3}{4}$ of a sack of flour each day.

How much flour is used in 5 days?

16 The square ABCD has area 14 cm^2.

Work out the area of the shaded part.