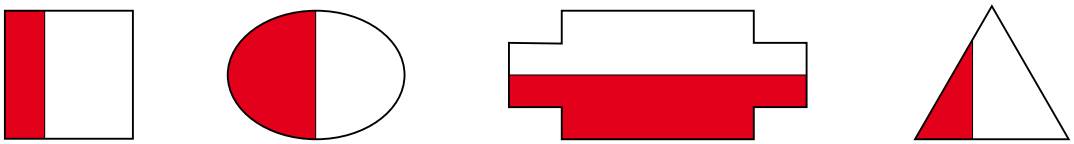
Fractions (1)

- Finding equivalent fractions
- Comparing fractions
- Changing between improper fractions and mixed numbers
- Solving division problems using fractions

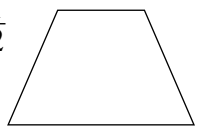
Keywords

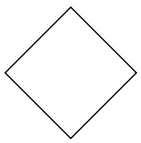
explanation 1

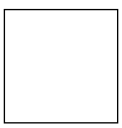
1 Which of these shapes have $\frac{1}{2}$ coloured red? Explain how you know.



2 Copy and complete these diagrams to show the fractions.

a $\frac{1}{2}$ 

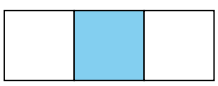
b $\frac{1}{4}$ 

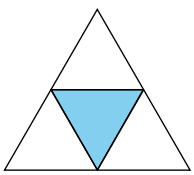
c $\frac{3}{4}$ 

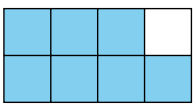
explanation 2 online

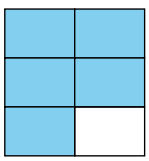
3 Each of these shapes is divided into smaller parts of equal size.

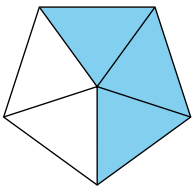
a Write the fraction of each shape that is coloured blue.

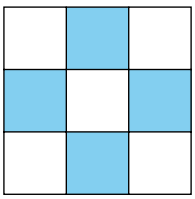
i 

ii 

iii 

iv 

v 

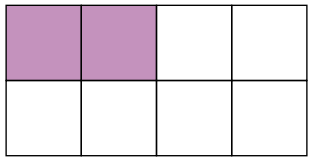
vi 

b Write the fraction of each shape that is *not* coloured blue.

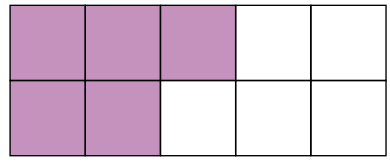
explanation 3a explanation 3b

4 Find a pair of equivalent fractions to represent the coloured part of each diagram.

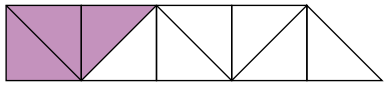
a



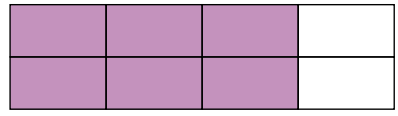
b



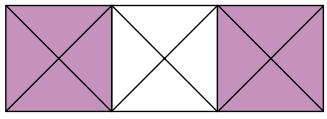
c



d



e



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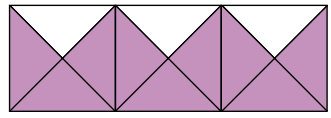
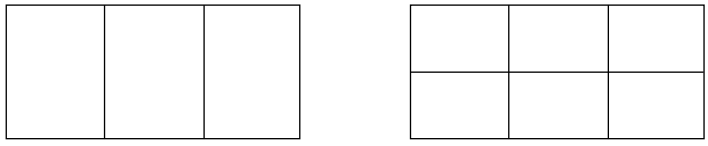
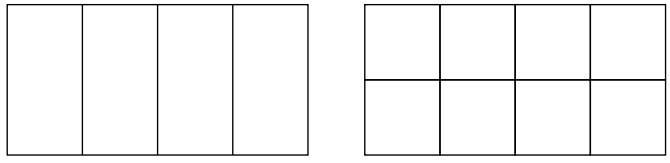


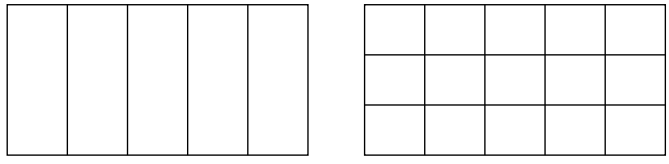
5 Copy and complete these diagrams to show that $\frac{2}{3}$ and $\frac{4}{6}$ are equivalent fractions.



6 Copy and complete these diagrams to show that $\frac{3}{4}$ and $\frac{6}{8}$ are equivalent fractions.



7 Copy and complete these diagrams to show that $\frac{3}{5}$ and $\frac{9}{15}$ are equivalent fractions.



8 Copy and complete these equivalent fractions.

a $\frac{1}{4} = \frac{\square}{\square}$ (×5 above, ×5 below)

b $\frac{2}{3} = \frac{\square}{\square}$ (×3 above, ×3 below)

c $\frac{3}{5} = \frac{\square}{\square}$ (×2 above, ×2 below)

d $\frac{4}{7} = \frac{\square}{\square}$ (×3 above, ×3 below)

e $\frac{1}{2} = \frac{\square}{\square}$ (×3 above, ×3 below)

f $\frac{1}{3} = \frac{\square}{12}$ (× □ above, × □ below)

g $\frac{5}{8} = \frac{15}{\square}$ (× □ above, × □ below)

h $\frac{4}{5} = \frac{32}{\square}$ (× □ above, × □ below)

9 Copy and complete these equivalent fractions.

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

b $\frac{3}{4} = \frac{\square}{12}$

c $\frac{2}{3} = \frac{8}{\square}$

d $\frac{2}{5} = \frac{10}{\square}$

e $\frac{4}{7} = \frac{\square}{21}$

f $\frac{3}{8} = \frac{12}{\square}$

g $\frac{4}{5} = \frac{8}{\square} = \frac{\square}{25}$

h $\frac{3}{10} = \frac{\square}{30} = \frac{27}{\square}$

i $\frac{5}{6} = \frac{35}{\square} = \frac{\square}{54}$

explanation 4

10 Copy and complete these equivalent fractions.

a $\frac{21}{28} = \frac{3}{\square}$

b $\frac{35}{45} = \frac{\square}{9}$

c $\frac{50}{75} = \frac{2}{\square}$

d $\frac{44}{88} = \frac{22}{44} = \frac{\square}{2}$

e $\frac{36}{48} = \frac{9}{\square} = \frac{\square}{4}$

f $\frac{60}{\square} = \frac{20}{30} = \frac{2}{\square}$

11 Write each of these fractions in their lowest terms.

a $\frac{16}{20}$

b $\frac{24}{40}$

c $\frac{12}{30}$

d $\frac{40}{60}$

e $\frac{15}{30}$

f $\frac{20}{30}$

g $\frac{25}{40}$

h $\frac{15}{24}$

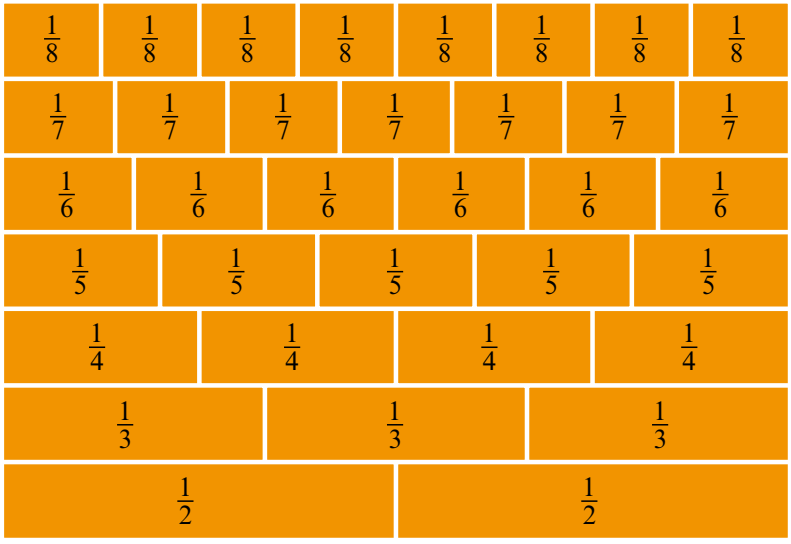
i $\frac{55}{77}$

j $\frac{45}{90}$

k $\frac{75}{100}$

l $\frac{210}{300}$

explanation 5 — online



12 Which fraction is bigger? Use the fraction wall to help you.

a $\frac{2}{7}$ or $\frac{1}{3}$ **b** $\frac{2}{5}$ or $\frac{4}{7}$ **c** $\frac{2}{3}$ or $\frac{7}{8}$

d $\frac{3}{7}$ or $\frac{1}{2}$ **e** $\frac{4}{5}$ or $\frac{6}{7}$ **f** $\frac{5}{6}$ or $\frac{2}{3}$

13 Write these groups of fractions in order of size, smallest first. Use the fraction wall to help you.

a $\frac{1}{2}$ $\frac{1}{3}$ $\frac{2}{5}$ **b** $\frac{3}{5}$ $\frac{4}{7}$ $\frac{5}{8}$ **c** $\frac{3}{4}$ $\frac{5}{6}$ $\frac{5}{7}$

explanation 6

14 **a** Write $\frac{1}{2}$ and $\frac{2}{3}$ as equivalent fractions with denominator 6.

b Explain why $\frac{2}{3}$ is bigger than $\frac{1}{2}$. Use your answer to part **a** to help you.

15 **a** Write $\frac{3}{4}$ and $\frac{4}{5}$ as equivalent fractions with denominator 20.

b Which fraction is bigger, $\frac{3}{4}$ or $\frac{4}{5}$? Explain how you know.

16 Write each pair of fractions as equivalent fractions with the same denominator. State which fraction in each pair is bigger.

a $\frac{1}{3}$ $\frac{2}{5}$ **b** $\frac{5}{8}$ $\frac{3}{4}$ **c** $\frac{3}{8}$ $\frac{5}{12}$

d $\frac{1}{2}$ $\frac{4}{7}$ **e** $\frac{2}{5}$ $\frac{3}{8}$ **f** $\frac{7}{10}$ $\frac{2}{3}$

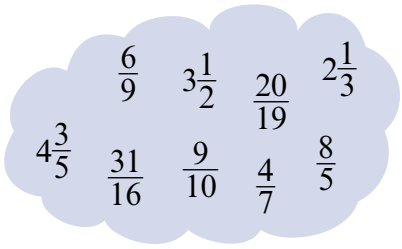
explanation 7

17 Look at the numbers in the cloud.

a Which numbers are proper fractions?

b Which numbers are improper fractions?

c Which numbers are mixed numbers?



18 Write three proper fractions that are bigger than $\frac{1}{2}$.

19 Write three improper fractions that are less than 2.

explanation 8

20 Explain how you can work out that $\frac{7}{4} = 1\frac{3}{4}$.

21 Write these improper fractions as mixed numbers.

a $\frac{7}{3}$ **b** $\frac{11}{4}$ **c** $\frac{24}{5}$ **d** $\frac{19}{8}$ **e** $\frac{25}{11}$ **f** $\frac{49}{10}$

g $\frac{20}{19}$ **h** $\frac{33}{7}$ **i** $\frac{44}{12}$ **j** $\frac{13}{5}$ **k** $\frac{88}{10}$ **l** $\frac{36}{15}$

explanation 9

22 Explain how you can work out that $2\frac{3}{5} = \frac{13}{5}$.

23 Write these mixed numbers as improper fractions.

a $1\frac{2}{3}$ **b** $2\frac{1}{5}$ **c** $1\frac{3}{4}$ **d** $3\frac{1}{2}$ **e** $4\frac{3}{5}$ **f** $5\frac{2}{9}$

g $6\frac{2}{3}$ **h** $7\frac{1}{4}$ **i** $5\frac{3}{7}$ **j** $2\frac{4}{9}$ **k** $1\frac{2}{11}$ **l** $3\frac{3}{8}$

24 Anil and his three friends buy 3 pizzas to share equally between them.

A fair way to share the pizzas is for each person to take one slice from each pizza.

What fraction of a pizza does each person get altogether?

explanation 10

25 Copy and complete this calculation. $4 \div 8 = \frac{4}{\square} = \frac{1}{\square}$

26 Give your answers to these divisions as proper fractions in their lowest terms.

a $4 \div 6$ **b** $9 \div 12$ **c** $14 \div 20$

d $15 \div 18$ **e** $24 \div 30$ **f** $25 \div 75$

g $50 \div 75$ **h** $12 \div 30$ **i** $18 \div 48$

27 Jane brought back 12 sticks of rock from her holiday at the seaside.

She shared them equally between her 8 friends.

How much did each person get?

28 Copy and complete this calculation.

$6 \div 4 = \frac{\square}{4} = \frac{\square}{2} = \square\frac{\square}{2}$

29 Give your answers to these divisions as mixed numbers.

a $11 \div 4$ **b** $13 \div 4$ **c** $13 \div 5$

d $21 \div 14$ **e** $25 \div 4$ **f** $24 \div 10$

g $30 \div 9$ **h** $28 \div 12$ **i** $44 \div 24$