Planner

Fractions and decimals

- Expressing one quantity as a fraction of another
- Using equivalent fractions
- Changing between fractions and decimals
- Using division to convert fractions to decimals
- Ordering fractions

Keywords

You should know

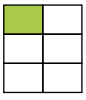
explanation 1

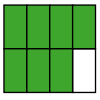
online

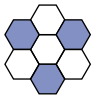
1 Match one of these fractions to each picture. $\frac{3}{7}, \frac{1}{6}, \frac{3}{5}, \frac{7}{8}, \frac{2}{9}, \frac{1}{4}, \frac{2}{4}, \frac{3}{8}$

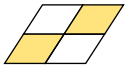
Which fraction is left?

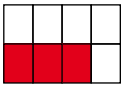
a 

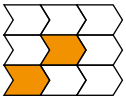
b 

c 

d 

e 

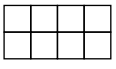
f 

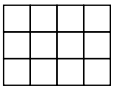
g 

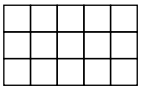
2 Use squared paper to draw each rectangle.

Shade the fraction of the rectangle.

a  $\frac{1}{6}$

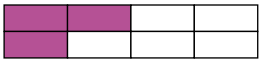
b  $\frac{2}{8}$

c  $\frac{5}{12}$

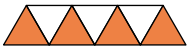
d  $\frac{11}{15}$

3 Write the fraction shaded in each diagram.

a 

b 

c 

d 

e 

f 

4 Write each pair of numbers as a fraction. The first number is the numerator and the second number is the denominator.

a 3, 4 **b** 4, 11 **c** 3, 7

5 A car park has 40 spaces. There are 27 cars parked in the car park.

What fraction of the car park is full?

6 **a** Peter eats $\frac{3}{5}$ of his pizza.

What fraction does he have left?

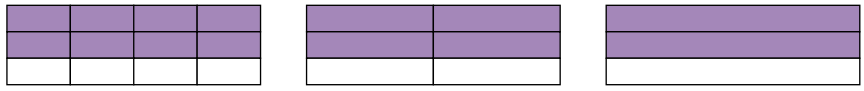
b Hannah has spent $\frac{7}{10}$ of her pocket money. What fraction does she have left?

c Witold eats $\frac{5}{12}$ of his chocolate bar.

What fraction does he have left?

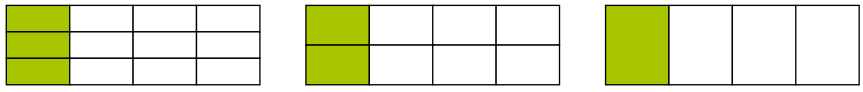
explanation 2a explanation 2b

7 Write the equivalent fractions shown by these diagrams.



8 Write the equivalent fractions shown by each set of diagrams.

a



b

9 Copy and complete these sets of equivalent fractions.

a $\frac{1}{2} = \frac{\square}{4} = \frac{\square}{6} = \frac{4}{\square} = \frac{\square}{10}$

b $\frac{5}{8} = \frac{10}{\square} = \frac{15}{\square} = \frac{\square}{32} = \frac{\square}{80}$

c $\frac{2}{5} = \frac{\square}{10} = \frac{6}{\square} = \frac{\square}{20} = \frac{14}{\square}$

d $\frac{\square}{6} = \frac{10}{\square} = \frac{15}{18} = \frac{\square}{24} = \frac{\square}{36}$

10 **a** Match the equivalent fractions.
Write each set of equivalent fractions in a list.

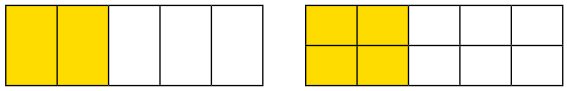
b Which fraction is the odd one out?

$\frac{1}{5}$ $\frac{2}{5}$ $\frac{1}{6}$ $\frac{7}{12}$ $\frac{3}{18}$ $\frac{3}{15}$ $\frac{10}{60}$ $\frac{4}{24}$ $\frac{40}{100}$

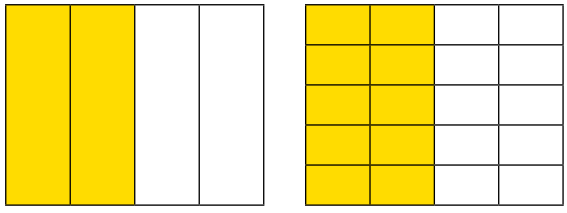
$\frac{4}{10}$ $\frac{6}{30}$ $\frac{2}{10}$ $\frac{2}{12}$ $\frac{20}{100}$ $\frac{6}{15}$ $\frac{20}{50}$

11 Copy and complete these equivalent fractions.

a $\frac{2}{5} = \frac{\square}{10}$ (×2 above, ×2 below)



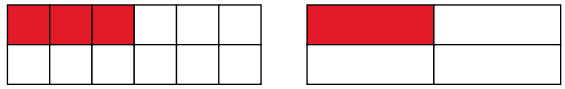
b $\frac{1}{4} = \frac{5}{\square}$ (×5 above, ×5 below)



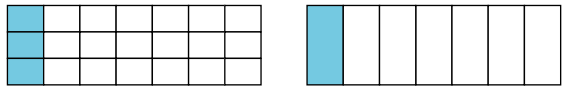
c $\frac{4}{7} = \frac{\square}{21}$ **d** $\frac{2}{5} = \frac{\square}{25}$ **e** $\frac{6}{7} = \frac{\square}{28}$ **f** $\frac{3}{8} = \frac{9}{\square}$ **g** $\frac{4}{9} = \frac{24}{\square}$

12 Write each of these fractions in their lowest terms.

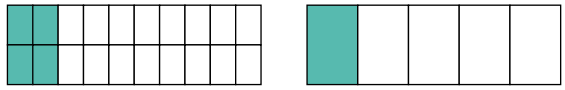
a $\frac{3}{12}$



b $\frac{3}{21}$



c $\frac{4}{20}$



d $\frac{15}{20}$ **e** $\frac{20}{28}$ **f** $\frac{21}{35}$ **g** $\frac{11}{44}$

h $\frac{27}{45}$ **i** $\frac{49}{56}$ **j** $\frac{200}{300}$ **k** $\frac{250}{400}$

explanation 3a explanation 3b online

13 Write each decimal as a fraction in its lowest terms.

a 0.3 **b** 0.7 **c** 0.4 **d** 0.8

e 0.79 **f** 0.35 **g** 0.68 **h** 0.24

14 Change these fractions to decimals.

a $\frac{1}{5}$ **b** $\frac{1}{10}$ **c** $\frac{11}{20}$ **d** $\frac{2}{5}$ **e** $\frac{23}{50}$

15 **i** Change each set of fractions into decimals.
You can use a calculator to help you.

ii Arrange the original fractions in order from the smallest to the largest.

a $\frac{13}{16}$ $\frac{7}{8}$ $\frac{36}{40}$ $\frac{4}{5}$

b $\frac{3}{32}$ $\frac{1}{4}$ $\frac{5}{16}$ $\frac{4}{25}$

16 This table shows the time Amy spent on homework last weekend.

Subject	Maths	English	Science	History
Minutes	40	25	30	25

a What was the total time Amy spent on homework last weekend?

b What fraction of that time did she spend on each subject?

c Use a calculator to change each fraction in part **b** into a decimal.

explanation 4

17 **i** Write both fractions in each pair with a common denominator.

ii Which of the original fractions is bigger?

a $\frac{6}{10}, \frac{2}{5}$ **b** $\frac{4}{7}, \frac{14}{21}$ **c** $\frac{12}{16}, \frac{2}{4}$ **d** $\frac{18}{30}, \frac{4}{6}$

18 **i** Write the fractions in each group with a common denominator.

ii Write the original fractions in order of size, smallest first.

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

d $\frac{2}{5}, \frac{3}{7}$ **e** $\frac{3}{5}, \frac{2}{3}$ **f** $\frac{4}{9}, \frac{1}{2}$

g $\frac{2}{3}, \frac{7}{12}, \frac{5}{6}$ **h** $\frac{3}{8}, \frac{2}{5}, \frac{1}{4}$ **i** $\frac{5}{8}, \frac{9}{16}, \frac{3}{4}$

19 Use a calculator to convert the fractions in each group in question **18** to decimals. Use these to check your answers to part **ii** of question **18**.