Planner

Percentages

- Representing a percentage on a diagram
- Converting between fractions, decimals and percentages

Keywords

You should know

explanation 1a | explanation 1b | online

1 Each diagram contains 100 squares. Answer the questions for each diagram.

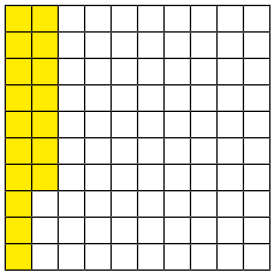
i What fraction of the squares are yellow?

ii What percentage of the squares are yellow?

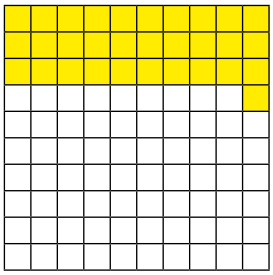
iii What fraction of the squares are not yellow?

iv What percentage of the squares are not yellow?

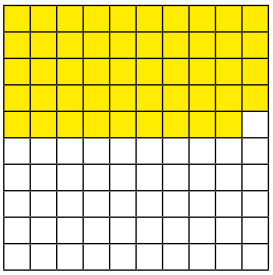
a



b



c



2 Copy and complete these statements.

a $\frac{32}{100} = \square\%$

b $\frac{44}{100} = \square\%$

c $\frac{\square}{100} = 9\%$

d $\frac{8}{10} = \frac{\square}{100} = \square\%$

e $\frac{7}{20} = \frac{\square}{100} = \square\%$

f $\frac{11}{25} = \frac{\square}{100} = \square\%$

g $\frac{19}{50} = \frac{\square}{100} = \square\%$

h $\frac{124}{200} = \frac{\square}{100} = \square\%$

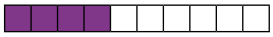
i $\frac{24}{300} = \frac{\square}{100} = \square\%$

3 28% of a diagram is coloured red.
What percentage of the diagram is not coloured red?

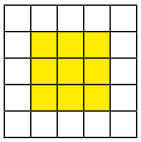
4 A netball team has won 63% of its matches and drawn a further 18%.
What percentage of matches has the netball team lost?

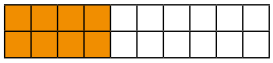
5 **i** What fraction of each diagram is white?

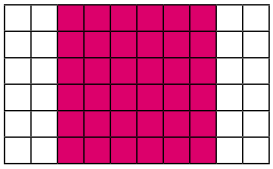
ii What percentage of each diagram is white?

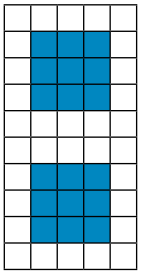
a 

b 

c 

d 

e 

f 

6 Compare your answers for question **3** parts **a**, **b** and **c** with those for **d**, **e** and **f**.

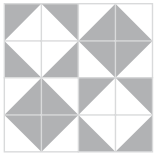
Explain any connection that you find.

7 **a** Here are two tiling patterns. What percentage of each pattern is coloured grey?

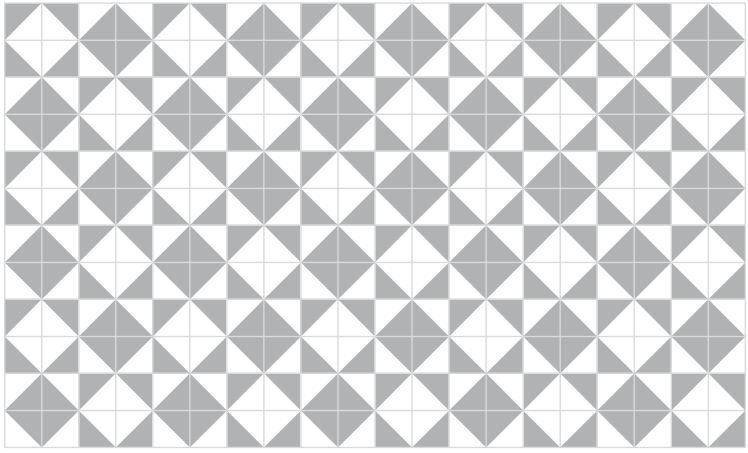
i 

ii 

b The two tiling patterns from part **a** are combined to make this pattern. What percentage of this pattern is coloured grey?



c The pattern from part **b** is now repeated to make the complete mosaic pattern below. What percentage of the mosaic is coloured grey?



8 Use equivalent fractions to write each of these as a percentage.

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

9 Use equivalent fractions to write each of these as a percentage.

a $\frac{7}{25}$ **b** $\frac{11}{20}$ **c** $\frac{27}{50}$

d $\frac{7}{10}$ **e** $\frac{162}{200}$ **f** $\frac{240}{400}$

g $\frac{63}{75}$ **h** $\frac{45}{60}$ **i** $\frac{30}{125}$

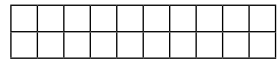
10 Write each percentage as a fraction and simplify where possible.

a 60% **b** 29% **c** 80%

d 45% **e** 32% **f** 70%

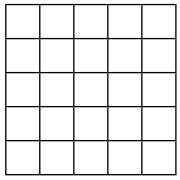
g 7% **h** 84% **i** 12.5%

11 Copy the diagram and shade 35% of it.



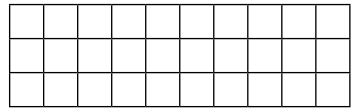
12 Copy these diagrams and shade the percentage shown.

a



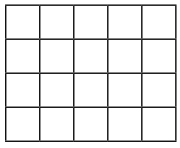
36%

b



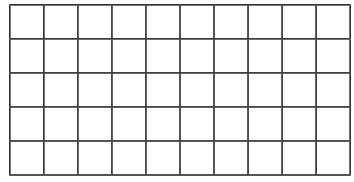
40%

c



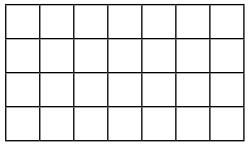
65%

d



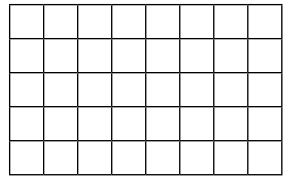
28%

e



75%

f



12.5%

explanation 2

13 Write these fractions and percentages as decimals.

a $\frac{23}{100}$ **b** $\frac{9}{100}$ **c** 47%

d 8% **e** 50% **f** 25%

g 86% **h** 12.5% **i** 17.5%

j 14.8% **k** 3.5% **l** 6.3%

14 Write these decimals as percentages.

a 0.39 **b** 0.75 **c** 0.06

d 0.01 **e** 0.275 **f** 0.375

g 0.764 **h** 0.083 **i** 0.108

15 Copy and complete the table.

	Fraction	Decimal	Percentage
a		0.4	
b	$\frac{7}{20}$		
c		0.95	
d			65
e	$\frac{12}{25}$		
f			72
g	$\frac{11}{50}$		
h			35

16 Write these numbers in order of size, smallest first.

66%, 0.085, $\frac{7}{10}$, 57.9%, $\frac{17}{20}$