Acorn & Ink

Percentages made easy

Per cent means “out of 100”. 18% = 18 out of every 100 = $\frac{18}{100}$.

The building blocks

100% the whole

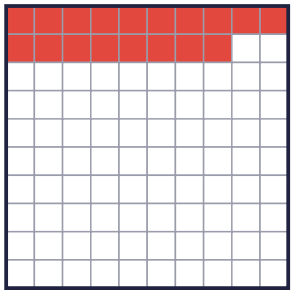
50% divide by 2 (half)

25% divide by 4 (a quarter)

10% divide by 10

5% half of 10%

1% divide by 100



18 squares out of 100 = 18%

1. Build it from blocks

35% of 240
= 10% + 10% + 10% + 5%
= 24 + 24 + 24 + 12 = **84**

2. Use a fraction

75% of 36 = $\frac{3}{4}$ of 36
36 ÷ 4 = 9
9 × 3 = **27**

3. Multiply, then ÷ 100

18% of 18
18 × 18 = 324
324 ÷ 100 = **3.24**

The swap trick

A% of B = B% of A.
8% of 25 = 25% of 8 = **2**

Ages 11+

Increase/decrease: work out the %, then add it or take it away.
As a %: part ÷ whole × 100.
% change: difference ÷ start × 100.

Fractions, decimals and percentages

$\frac{1}{2}$ = 0.5 = **50%** $\frac{1}{4}$ = 0.25 = **25%** $\frac{3}{4}$ = 0.75 = **75%** $\frac{1}{5}$ = 0.2 = **20%**

$\frac{1}{10}$ = 0.1 = **10%** $\frac{1}{100}$ = 0.01 = **1%**

PERCENTAGES · AGES 9–10

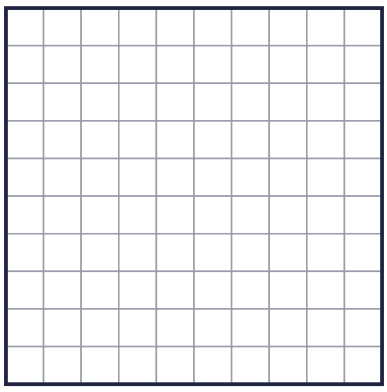
Colour the percentage

Acorn & Ink

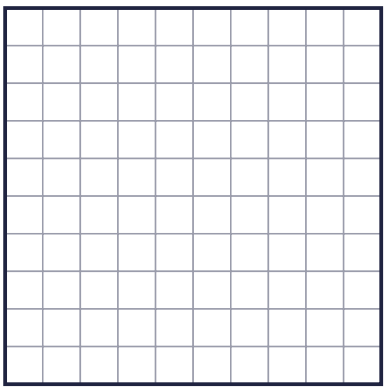
Colour the right number of squares in each 100 square.

Name _____ **Date** _____ **Score** _____ / 6

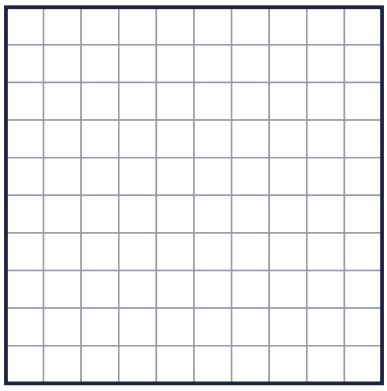
Colour **19%**



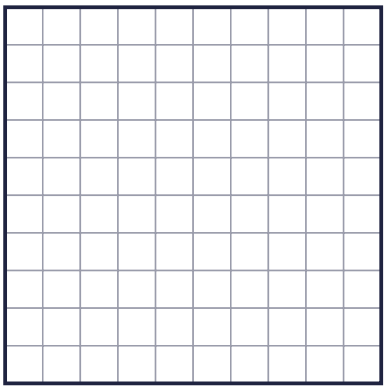
Colour **25%**



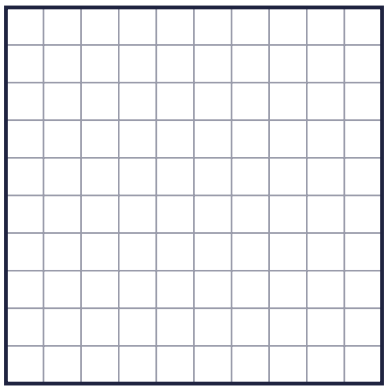
Colour **5%**



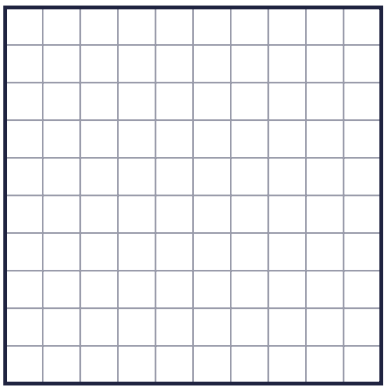
Colour **88%**



Colour **40%**



Colour **10%**



Remember: each small square is 1%. A whole row of 10 squares is 10%.

PERCENTAGES · AGES 9–10

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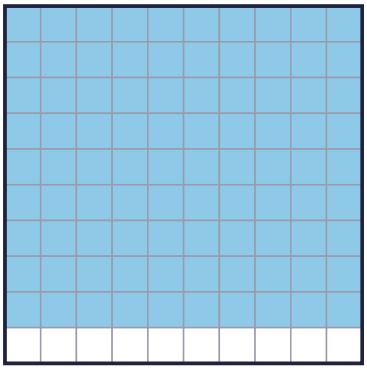
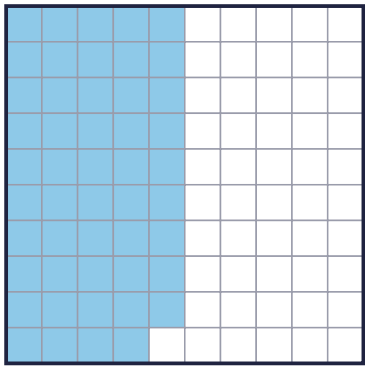
What percentage is shaded?

Count the shaded squares. Write the amount as a percentage, a fraction out of 100 and a decimal.

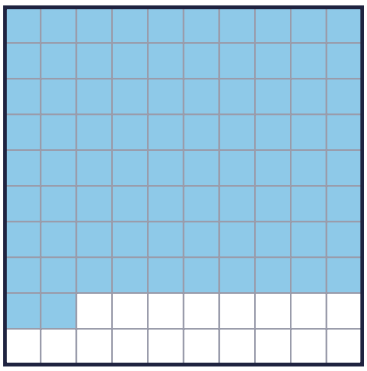
Name _____ **Date** _____ **Score** _____ / 18



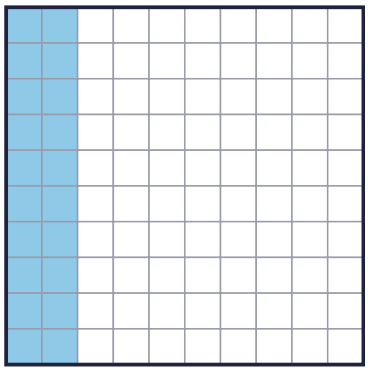
per cent _____ fraction _____ decimal _____



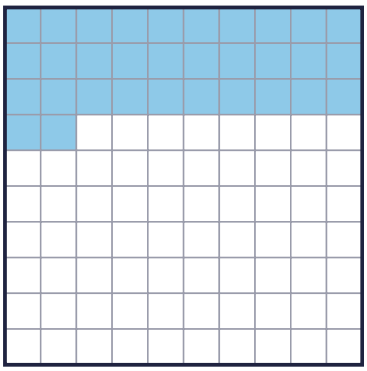
per cent _____ fraction _____ decimal _____



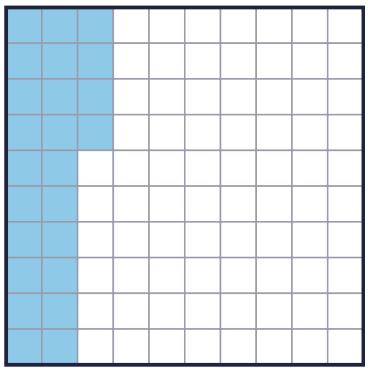
per cent _____ fraction _____ decimal _____



per cent _____ fraction _____ decimal _____



per cent _____ fraction _____ decimal _____



per cent _____ fraction _____ decimal _____

PERCENTAGES · AGES 9–10

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Fractions, decimals and percentages

Each row shows one amount. Fill in the two missing ways of writing it.

Name _____ Date _____ Score _____ / 24

Fraction	Decimal	Percentage
$\frac{1}{4}$		
	0.75	
		90%
$\frac{1}{5}$		
	0.1	
		2%
$\frac{63}{100}$		
	0.99	
		80%
$\frac{1}{100}$		
	0.7	
		37%

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Fraction, decimal, percentage snap

Cut out the cards. Each amount is written three ways: find the sets of three, or play snap and pairs.

Name _____ Date _____

$\frac{7}{10}$	50%	$\frac{4}{5}$	40%
$\frac{9}{10}$	0.25	20%	0.5
0.8	90%	$\frac{1}{2}$	80%
25%	$\frac{2}{5}$	0.9	0.7
70%	0.4	0.37	$\frac{1}{4}$
$\frac{1}{5}$	37%	$\frac{37}{100}$	0.2

COLOUR BY SUM · PERCENTAGES

What's the mystery picture?

Acorn & Ink

Work out each sum. Find the answer in the key and colour the square that colour.

3 black 5 light blue 6 dark green 8 green 12 yellow

25% of 20	25% of 20	50% of 10	50% of 10	25% of 20	20% of 25	25% of 20	20% of 25	50% of 10	10% of 50	20% of 25	20% of 25	25% of 20	10% of 50
20% of 25	25% of 20	25% of 20	25% of 20	10% of 50	50% of 10	50% of 10	10% of 50	10% of 80	50% of 16	20% of 40	10% of 80	10% of 50	10% of 50
20% of 25	20% of 25	50% of 10	10% of 50	20% of 25	25% of 20	50% of 10	10% of 80	50% of 16	10% of 80	10% of 80	50% of 16	25% of 32	10% of 50
10% of 50	10% of 50	50% of 10	25% of 20	50% of 10	50% of 10	10% of 50	10% of 80	20% of 40	25% of 12	50% of 16	20% of 40	20% of 40	20% of 25
25% of 20	10% of 50	20% of 25	25% of 20	25% of 20	50% of 10	50% of 10	20% of 40	20% of 40	25% of 32	50% of 16	25% of 32	10% of 80	10% of 80
25% of 20	20% of 25	10% of 50	50% of 10	20% of 25	50% of 10	25% of 20	20% of 40	25% of 32	20% of 40	50% of 10	20% of 25	10% of 50	20% of 25
50% of 10	20% of 25	50% of 10	50% of 10	25% of 20	20% of 25	50% of 16	20% of 40	20% of 40	25% of 32	50% of 10	10% of 50	50% of 10	25% of 20
20% of 25	50% of 10	20% of 25	25% of 20	20% of 60	50% of 16	25% of 32	20% of 40	10% of 80	25% of 32	20% of 40	10% of 50	50% of 10	20% of 25
25% of 20	20% of 25	20% of 25	25% of 48	20% of 40	10% of 80	25% of 32	20% of 40	10% of 80	20% of 40	20% of 40	50% of 16	50% of 10	25% of 20
20% of 25	20% of 25	20% of 60	10% of 80	10% of 80	50% of 16	10% of 80	25% of 32	10% of 80	20% of 40	20% of 40	25% of 32	10% of 80	25% of 20
25% of 20	25% of 32	10% of 80	20% of 40	25% of 32	20% of 40	50% of 16	25% of 32	20% of 40	20% of 40	20% of 40	10% of 50	10% of 50	20% of 25
25% of 32	50% of 16	10% of 50	25% of 20	25% of 32	25% of 32	50% of 16	10% of 80	25% of 32	50% of 16	10% of 80	20% of 25	50% of 10	50% of 10
25% of 32	25% of 20	50% of 10	10% of 50	10% of 50	50% of 16	10% of 80	25% of 20	25% of 20	20% of 40	20% of 40	50% of 10	10% of 50	50% of 10
20% of 25	25% of 20	10% of 50	10% of 50	50% of 10	25% of 32	25% of 32	20% of 25	50% of 10	20% of 40	10% of 80	20% of 25	50% of 10	10% of 50
25% of 24	20% of 30	20% of 30	10% of 60	25% of 24	50% of 12	20% of 30	20% of 30	20% of 30	10% of 60	10% of 60	50% of 12	20% of 30	10% of 60
50% of 12	25% of 24	50% of 12	20% of 30	25% of 24	10% of 60	10% of 60	25% of 24	20% of 30	25% of 24	25% of 24	25% of 24	25% of 24	50% of 12

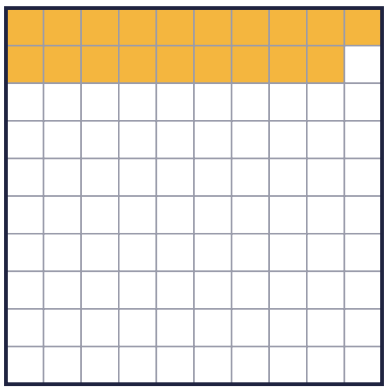
Acorn & Ink

Colour the percentage

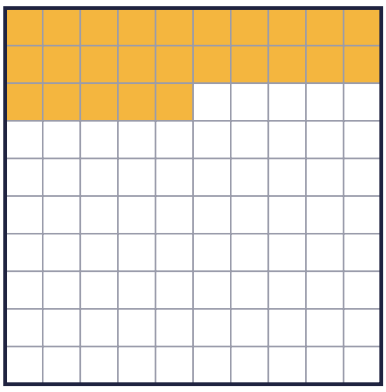
Answers are shown in red.

Name _____ **Date** _____

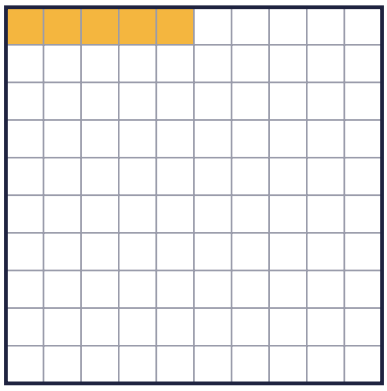
Colour **19%**



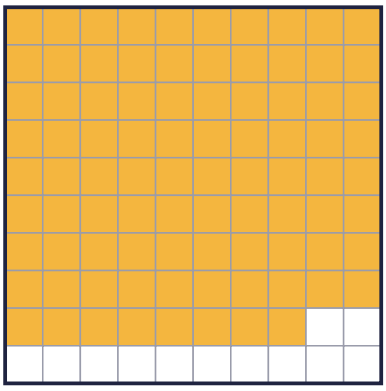
Colour **25%**



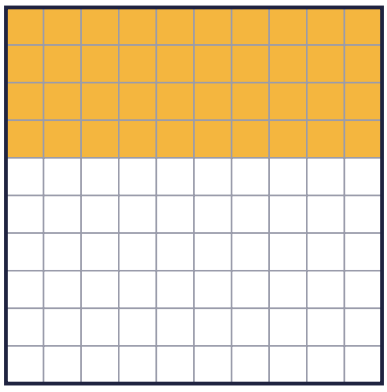
Colour **5%**



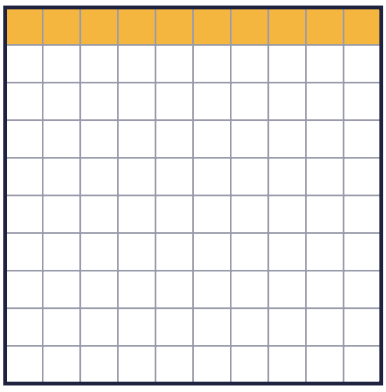
Colour **88%**



Colour **40%**



Colour **10%**



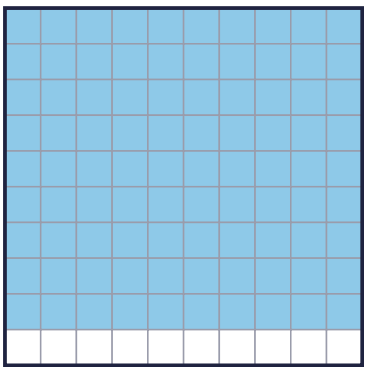
Remember: each small square is 1%. A whole row of 10 squares is 10%.

Acorn & Ink

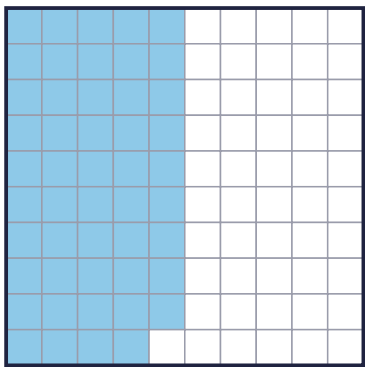
What percentage is shaded?

Answers are shown in red.

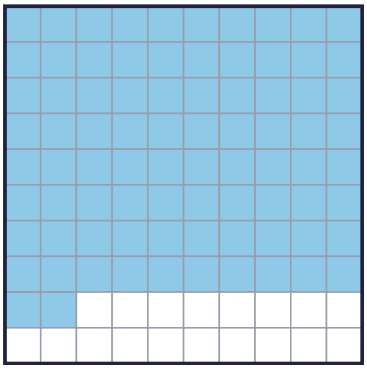
Name _____ Date _____



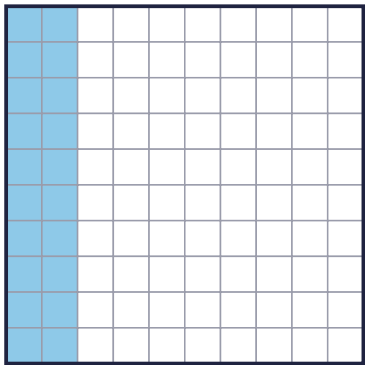
90%	90/100	0.9
per cent	fraction	decimal



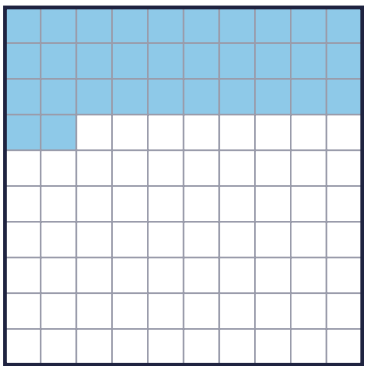
49%	49/100	0.49
per cent	fraction	decimal



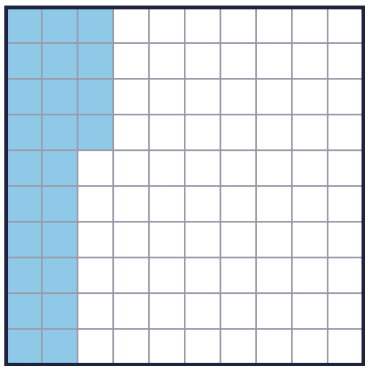
82%	82/100	0.82
per cent	fraction	decimal



20%	20/100	0.2
per cent	fraction	decimal



32%	32/100	0.32
per cent	fraction	decimal



24%	24/100	0.24
per cent	fraction	decimal

Acorn & Ink

Fractions, decimals and percentages

Answers are shown in red.

Name _____ Date _____

Fraction	Decimal	Percentage
$\frac{1}{4}$	0.25	25%
$\frac{3}{4}$	0.75	75%
$\frac{9}{10}$	0.9	90%
$\frac{1}{5}$	0.2	20%
$\frac{1}{10}$	0.1	10%
$\frac{1}{50}$	0.02	2%
$\frac{63}{100}$	0.63	63%
$\frac{99}{100}$	0.99	99%
$\frac{4}{5}$	0.8	80%
$\frac{1}{100}$	0.01	1%
$\frac{7}{10}$	0.7	70%
$\frac{37}{100}$	0.37	37%

It's a dinosaur!

Acorn & Ink

Here's how the finished picture looks.

3 black 5 light blue 6 dark green 8 green 12 yellow

25% of 20	25% of 20	50% of 10	50% of 10	25% of 20	20% of 25	25% of 20	20% of 25	50% of 10	10% of 50	20% of 25	20% of 25	25% of 20	10% of 50
20% of 25	25% of 20	25% of 20	25% of 20	10% of 50	50% of 10	50% of 10	10% of 50	10% of 80	50% of 16	20% of 40	10% of 80	10% of 50	10% of 50
20% of 25	20% of 25	50% of 10	10% of 50	20% of 25	25% of 20	50% of 10	10% of 80	50% of 16	10% of 80	10% of 80	50% of 16	25% of 32	10% of 50
10% of 50	10% of 50	50% of 10	25% of 20	50% of 10	50% of 10	10% of 50	10% of 80	20% of 40	25% of 12	50% of 16	20% of 40	20% of 40	20% of 25
25% of 20	10% of 50	20% of 25	25% of 20	25% of 20	50% of 10	50% of 10	20% of 40	20% of 40	25% of 32	50% of 16	25% of 32	10% of 80	10% of 80
25% of 20	20% of 25	10% of 50	50% of 10	20% of 25	50% of 10	25% of 20	20% of 40	25% of 32	20% of 40	50% of 10	20% of 25	10% of 50	20% of 25
50% of 10	20% of 25	50% of 10	50% of 10	25% of 20	20% of 25	50% of 16	20% of 40	20% of 40	25% of 32	50% of 10	10% of 50	50% of 10	25% of 20
20% of 25	50% of 10	20% of 25	25% of 20	20% of 60	50% of 16	25% of 32	20% of 40	10% of 80	25% of 32	20% of 40	10% of 50	50% of 10	20% of 25
25% of 20	20% of 25	20% of 25	25% of 48	20% of 40	10% of 80	25% of 32	20% of 40	10% of 80	20% of 40	20% of 40	50% of 16	50% of 10	25% of 20
20% of 25	20% of 25	20% of 60	10% of 80	10% of 80	50% of 16	10% of 80	25% of 32	10% of 80	20% of 40	20% of 40	25% of 32	10% of 80	25% of 20
25% of 20	25% of 32	10% of 80	20% of 40	25% of 32	20% of 40	50% of 16	25% of 32	20% of 40	20% of 40	20% of 40	10% of 50	10% of 50	20% of 25
25% of 32	50% of 16	10% of 50	25% of 20	25% of 32	25% of 32	50% of 16	10% of 80	25% of 32	50% of 16	10% of 80	20% of 25	50% of 10	50% of 10
25% of 32	25% of 20	50% of 10	10% of 50	10% of 50	50% of 16	10% of 80	25% of 20	25% of 20	20% of 40	20% of 40	50% of 10	10% of 50	50% of 10
20% of 25	25% of 20	10% of 50	10% of 50	50% of 10	25% of 32	25% of 32	20% of 25	50% of 10	20% of 40	10% of 80	20% of 25	50% of 10	10% of 50
25% of 24	20% of 30	20% of 30	10% of 60	25% of 24	50% of 12	20% of 30	20% of 30	20% of 30	10% of 60	10% of 60	50% of 12	20% of 30	10% of 60
50% of 12	25% of 24	50% of 12	20% of 30	25% of 24	10% of 60	10% of 60	25% of 24	20% of 30	25% of 24	25% of 24	25% of 24	25% of 24	50% of 12