

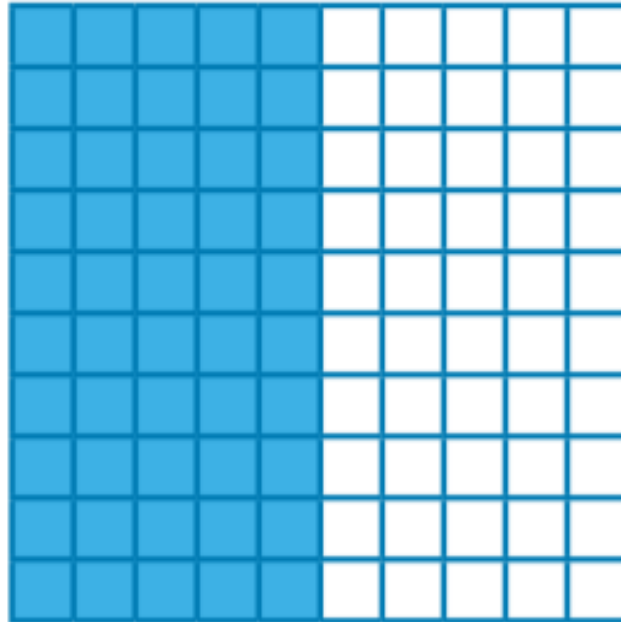
Fractions, Decimals and Percentages

Starter: Use the chart to test yourself with our key recall facts

Fraction	Percentage	Decimal
<input type="text"/>	50%	0.5
$\frac{1}{4}$	<input type="text"/>	0.25
<input type="text"/>	75%	0.75
$\frac{1}{5}$	20%	<input type="text"/>
<input type="text"/>	10%	<input type="text"/>

Comparing

- ▶ We were learning about comparing fractions, decimals and percentages just before the end of term - let's see what you can remember!

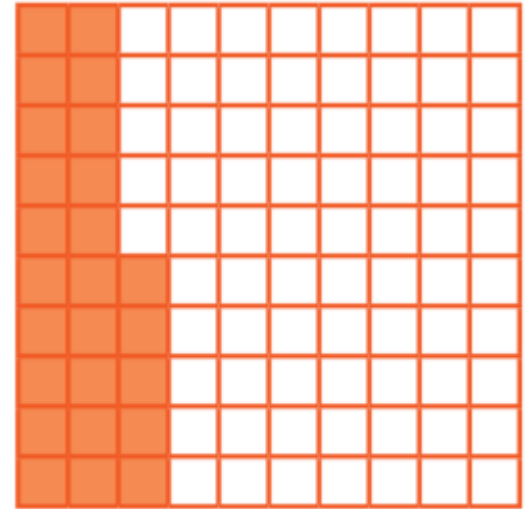


$$\frac{50}{100} = \frac{1}{2} = 0.5 = 50\%$$

Here we have a 100 square

How many of the cubes are shaded?
How does that help us work out the percentage or even fraction?

- ▶ In this example, 25 *out of* 100 squares are shaded.
- ▶ *Out of* is very important because it can be written as 25/100. We have a fraction! Can it be simplified? Yes, by divided both parts by 25.
- ▶ We can use 25/100 to work out the decimal. In that fraction we have 25 ‘hundredths’. Using our place value, we know that 25 hundredths

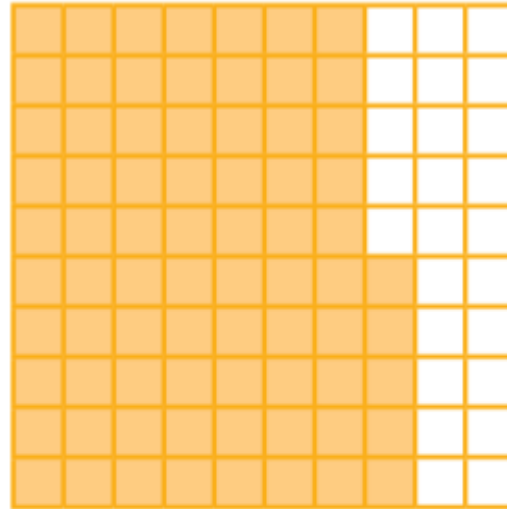
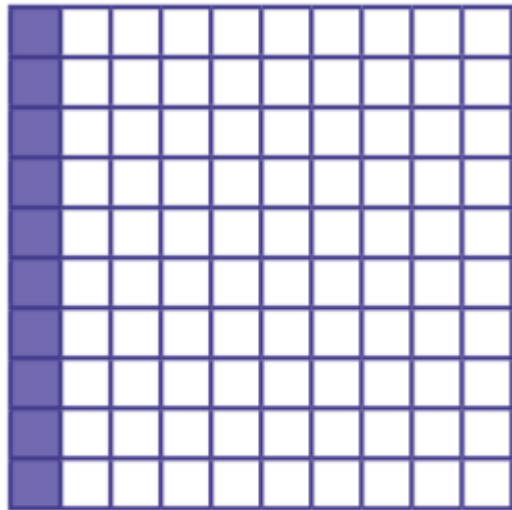


Tens	Ones	Tenths	Hundredths	Thousandths
	0	2	5	

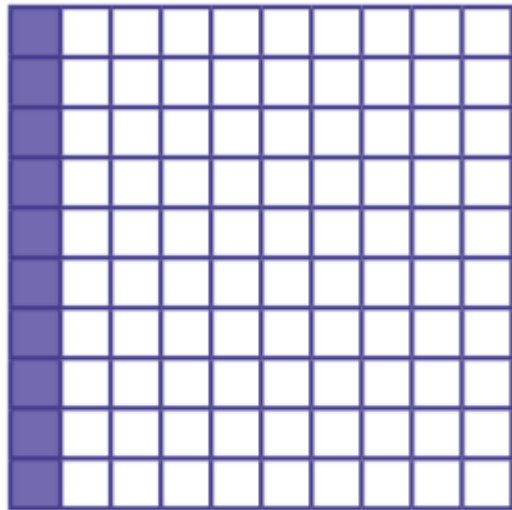
$$\frac{25}{100} = \frac{1}{4} = 0.25 = 25\%$$

You do: Find the fractions, decimals and percentages of these examples

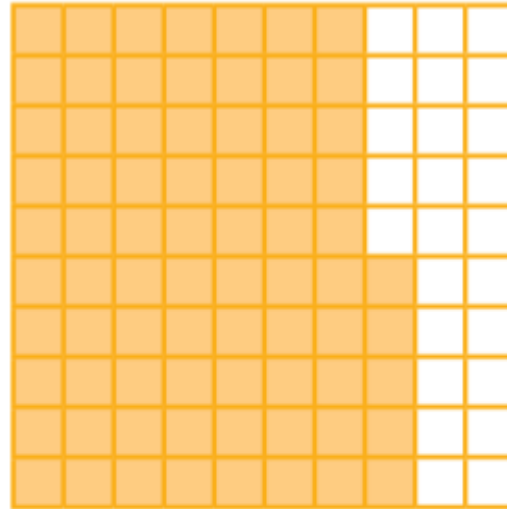
► Answers on next slide



You do: Find the fractions, decimals and percentages of these examples



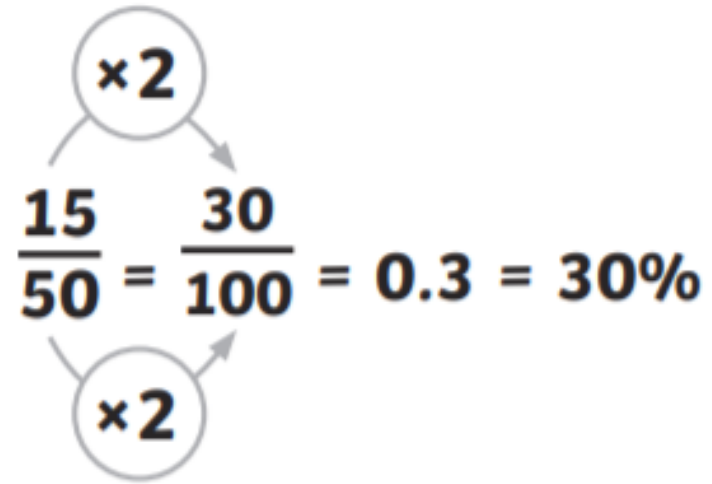
$$\frac{10}{100} = \frac{1}{10} = 0.1 = 10\%$$



$$\frac{75}{100} = \frac{3}{4} = 0.75 = 75\%$$

Turning fractions to percentages

- ▶ 'Per cent' means out of 100 so it is best to try and get a denominator of 100 for your fraction

$$\frac{15}{50} = \frac{30}{100} = 0.3 = 30\%$$


The diagram illustrates the conversion of the fraction $\frac{15}{50}$ to $\frac{30}{100}$. A circle containing $\times 2$ is positioned above the fraction, with an arrow pointing from the numerator 15 to 30. Another circle containing $\times 2$ is positioned below the fraction, with an arrow pointing from the denominator 50 to 100. The final result is shown as $0.3 = 30\%$.

You do

$$\begin{array}{r} 60 \\ \hline 200 \end{array}$$

You do

$$\begin{array}{r} 60 \\ \hline 200 \end{array}$$

► Answer



Compare: Which is greater?

$$1\frac{3}{5} \quad 1.55$$

- ▶ We need to have both numbers in the same format - it doesn't matter which, but I'm going to go for decimals.
- ▶ 1.55 is already a decimal so I can leave that
- ▶ $\frac{3}{5}$ needs to be turned into a decimal (we need a denominator of 100)
- ▶ $\frac{3}{5}$ is equivalent to $\frac{60}{100} = 0.6$
- ▶ That means $1\frac{3}{5}$ can be written as 1.6 which is greater than 1.55

$$\begin{array}{r} \frac{3}{5} \\ \times 20 \\ \hline \end{array}$$

You do: Which is greater?

$$1\frac{9}{100}$$

$$1.9$$

You do: Which is greater?

$$1\frac{9}{100} \quad 1.9$$

► Answer

► $9/100 = 0.09$ because I have 9 *hundredths*

	Ones	Tenths	Hundredths
$1\frac{9}{100}$	1	0	9
1.9	1	9	0

Write the fractions, decimals and percentages in ascending order.

c) 47%

0.89

$\frac{63}{100}$

12%

► Answer on next page

Write the fractions, decimals and percentages in ascending order.

c) 47% 0.89 $\frac{63}{100}$ 12%

- ▶ We need all four values to be in the same format, whether that is fractions, decimals or percentages (it doesn't matter which - choose the one that is easiest to do!)
- ▶ I am going to choose percentages:
- ▶ 47% 89% 63% 12%
- ▶ Ascending order means getting larger (smallest first)
- ▶ 12% 47% 63/100 0.89

Converting percentages into fractions

- ▶ Convert 43% into a fraction
- ▶ I know that % means out of 100
- ▶ 43% is the same as saying 43 *out of* 100
- ▶ This can be expressed as $\frac{43}{100}$ which is a fraction!

Converting percentages into fractions:

You do

▶ Convert 51% into a fraction

▶ Answer

I do: What is 0.6 expressed as a fraction and a percentage?

▶ Fraction:

- ▶ I need to use my knowledge of place value
- ▶ In 0.6, we have 6 in the tenths column
- ▶ This means that I have 6 *tenths* (6/10)
- ▶ Can 6/10 be simplified?
- ▶ Yes! I can divide both parts by 2, which gives me 3/5

▶ Percentage:

- ▶ 0.6 is exactly the same as 0.60
- ▶ I need to remember that 1.0 = 100%
- ▶ If I only have numbers in the *tenths* and *hundredths* column, the next part is easy: 0.60 = 60%!

You do: What is 0.4 expressed as a fraction and a percentage?

Answers

