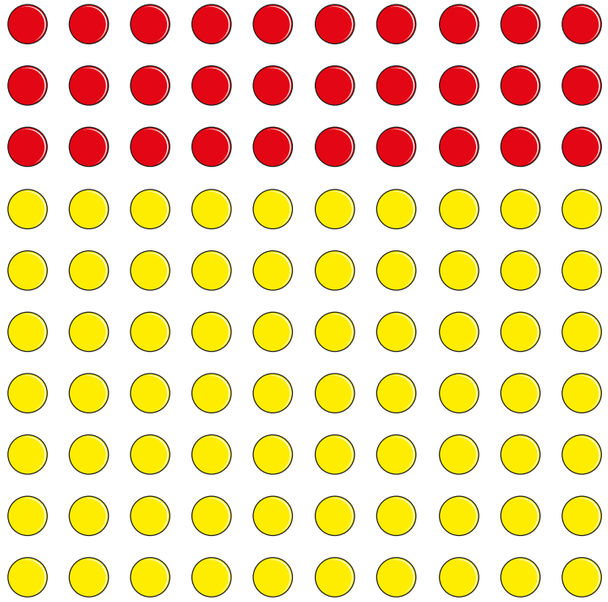
# Fractions to percentages

**1**



**a)** What fraction of the array of counters is red? ☐

**b)** What fraction of the array of counters is yellow? ☐

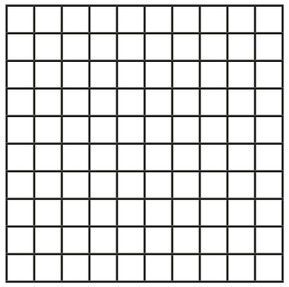
**c)** What percentage of the array of counters is red? ☐ %

**d)** What percentage of the array of counters is yellow? ☐ %

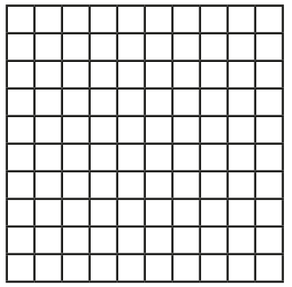
**e)** What do you notice about the two percentages?

**2** **a)** Shade the hundred squares to represent the fractions.

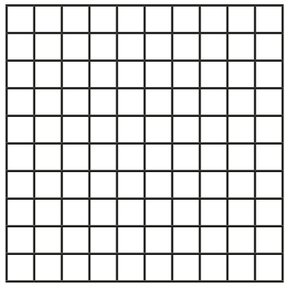
$\frac{40}{100}$



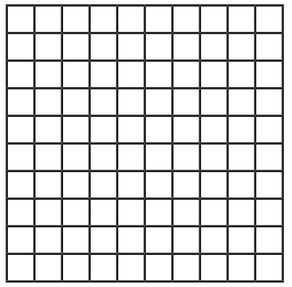
$\frac{65}{100}$



$\frac{1}{2}$



$\frac{7}{10}$



**b)** Write the fractions as percentages.

$\frac{40}{100}$ = ☐ %

$\frac{65}{100}$ = ☐ %

$\frac{1}{2}$ = ☐ %

$\frac{7}{10}$ = ☐ %

**c)** Compare your shaded grids with a partner's.

What is the same and what is different?

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**3** Fill in the missing numbers.

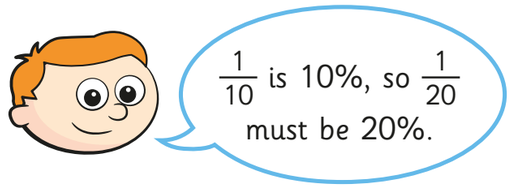
**a)** $\frac{9}{10} = \frac{\square}{100} = \square\%$

**b)** $\frac{9}{20} = \frac{\square}{100} = \square\%$

**c)** $\frac{9}{50} = \frac{\square}{100} = \square\%$

**d)** $\frac{9}{25} = \frac{\square}{100} = \square\%$

**4**




Explain the mistake that Ron has made.

What is the correct answer?

$\frac{1}{20} = \square\%$

**5** Convert the fractions to percentages.

**a)** $\frac{1}{4} = \square$

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

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

**b)** $\frac{1}{5} = \square$

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

$\frac{4}{5} = \square$

**c)** $\frac{16}{20} = \square$

**d)** $\frac{45}{50} = \square$

$\frac{8}{20} = \square$

$\frac{4}{20} = \square$

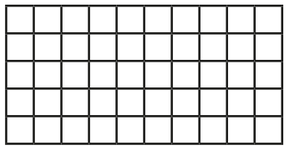
$\frac{9}{10} = \square$

$\frac{18}{20} = \square$

**e)** What do you notice?

**6** **a)** Shade the grid in the given proportions.

- $\frac{3}{5}$ green
- $\frac{4}{20}$ blue
- 14% red
- the rest yellow



**b)** What percentage of the grid is yellow?

$\square\%$

**7** **a)** Use each digit card once to make the statements correct.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|

$\frac{\square}{\square} > \square$ 0%

75% = $\frac{\square}{4}$

$\frac{3}{\square} < 65\%$

**b)** Are there any other solutions?

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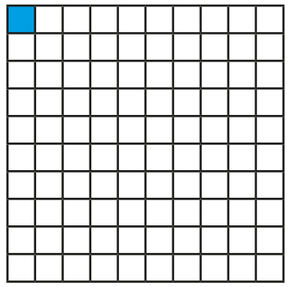
# Equivalent FDP

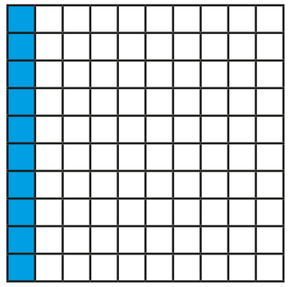
**1** What fraction, decimal and percentage of each grid is shaded blue?



fraction = ☐

decimal = ☐

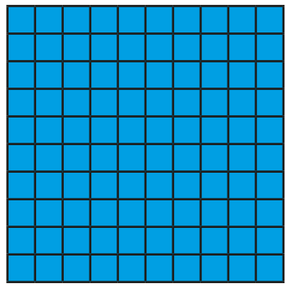
percentage = ☐



fraction = ☐

decimal = ☐

percentage = ☐



fraction = ☐

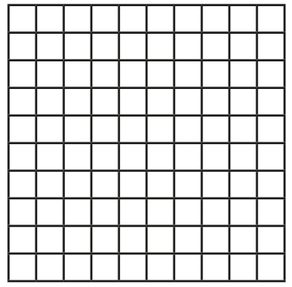
decimal = ☐

percentage = ☐

**2** Match the equivalent fractions, decimals and percentages.

| | | |
|---|---|---|
| $\frac{15}{100}$ | 0.05 | 5% |
| $\frac{1}{20}$ | 0.5 | 15% |
| $\frac{1}{5}$ | 0.2 | 50% |
| $\frac{1}{2}$ | 0.15 | 20% |

**3** **a)** Shade the grid in the given proportions.



- $\frac{3}{10}$ green
- 0.03 red
- 13% blue
- 0.3 yellow

**b)** What proportion of the grid is unshaded?

Write your answer as a fraction, decimal and percentage.

fraction = ☐ decimal = ☐ percentage = ☐

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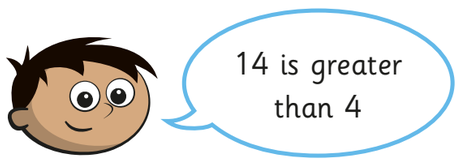
**4** Complete the table.

| Fraction | Decimal | Percentage |
|---|---|---|
| | 0.21 | |
| | | 12% |
| $\frac{2}{10}$ | | |
| | 0.4 | |
| | 0.44 | |
| | | 4% |
| $\frac{3}{4}$ | | |
| | 0.99 | |

**5** Amir was asked to complete the statement using <, > or =.

14% ( > ) 0.4

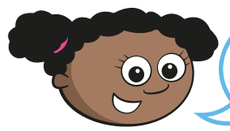


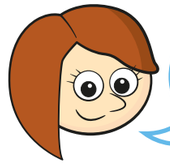

What mistake has Amir made?

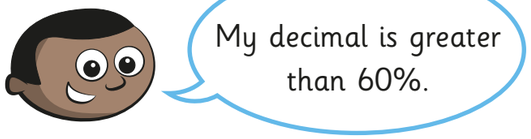
_____

_____

**6** Match the decimal cards to the people.






0.65

0.57

0.61

0.6

**7** Use the digit cards to write a decimal greater than $\frac{1}{5}$ but less than 40%.

You may not use a card more than once in each number.

| 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

□ . □ □

How many other answers can you find?

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# Order FDP

**1** Write <, > or = to complete the statements.

**a)** 64% ◯ 0.46

**b)** 0.96 ◯ $\frac{97}{100}$

**c)** $\frac{3}{5}$ ◯ 35%

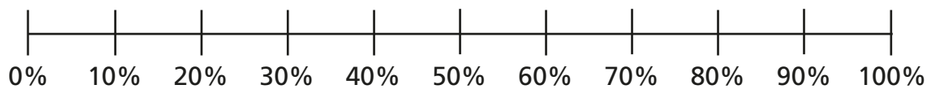
**d)** 0.8 ◯ 80%

**e)** 67% ◯ $\frac{7}{10}$

**f)** $\frac{7}{20}$ ◯ 0.3

**2** Draw arrows to estimate the positions of the fractions, decimals and percentages on the number line.

**a)** 9% $\frac{9}{10}$ 0.99 19%




**b)** $\frac{2}{5}$ 0.52 45% 0.2

**3** Write the fractions, decimals and percentages in ascending order.

**a)** $\frac{7}{10}$ $\frac{13}{100}$ 21% 0.9

**b)** 0.6 61% $\frac{37}{50}$ 0.66

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

**d)** Which part was easiest to order: a), b) or c)? _____

Why?

**e)** Which set was most difficult to order: a), b) or c)? _____

Why?

**f)** Compare answers with a partner.

What is the same and what is different?

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**4** These fractions, decimals and percentages are in descending order.

99% $\frac{89}{100}$ 0.7 [ ] 0.5 49%

Tick the fractions, decimals and percentages that could fill the gap.

[ 0.78 ] [ 51% ] [ $\frac{3}{5}$ ] [ 0.6 ] [ $\frac{4}{10}$ ]

**5** Tommy scored $\frac{40}{50}$ on a Maths test.

Aisha got 78% of the test correct.

Aisha thinks she has done better because 78 is greater than 40

Do you agree with Aisha? _____

Explain your answer.

_____

_____

**6** Huan, Nijah and Scott each started with a 1-litre bottle of juice.

Huan drank 0.55 litres.

Nijah drank 59% of her juice.

Scott has $\frac{4}{10}$ of his juice left.

Who drank the most? Show your working.

_____ drank the most.

Who drank the least? Show your working.

_____ drank the least.

**7** **a)** Use the digit cards to make the statement correct.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|

$0.3 < \frac{\square}{10} < 80\%$

How many different solutions can you find?

_____

**b)** Use the digit cards to write a percentage greater than $\frac{2}{5}$ but less than 75%.

| 0 | 2 | 3 | 4 | 6 | 7 |
|---|---|---|---|---|---|

$\frac{2}{5} < \square < 0.75$

How many different percentages can you find?

_____

Compare answers with a partner.

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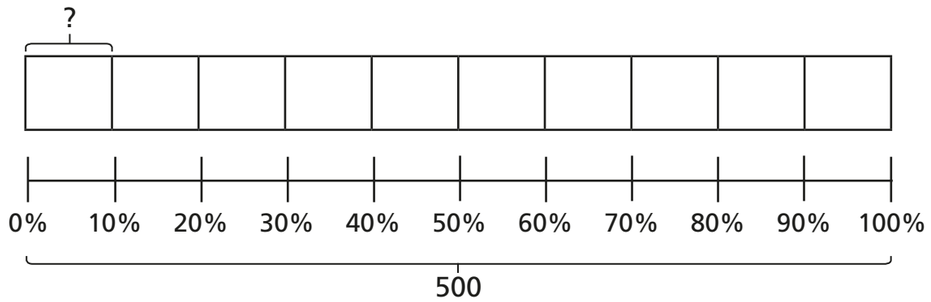
# Percentage of an amount (2)

**1** **a)** Use the bar model to find 10% of 500




10% of 500 = ☐

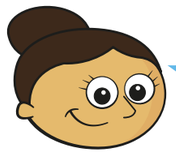
**b)** Use your answer to part a) to help you complete the calculations.

20% of 500 = ☐ 70% of 500 = ☐

90% of 500 = ☐ 60% of 500 = ☐

30% of 500 = ☐ 100% of 500 = ☐

**2**



To find 5% you can find 10% and then halve it.

Use Dora's method to complete the calculations.

**a)** 5% of 40 = ☐ **d)** 5% of 2,000 = ☐

**b)** 5% of 400 = ☐ **e)** 5% of 6,000 = ☐

**c)** 5% of 4,000 = ☐

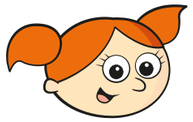
What do you notice about your answers?

**3** Some children are asked to find 75% of 340

I will find 25% and multiply it by 3

**a)** Use Dexter's method to find 75% of 340

☐



I will find 10% and multiply it by 7, then find 5% and add them together.

**b)** Use Alex's method to find 75% of 340

☐

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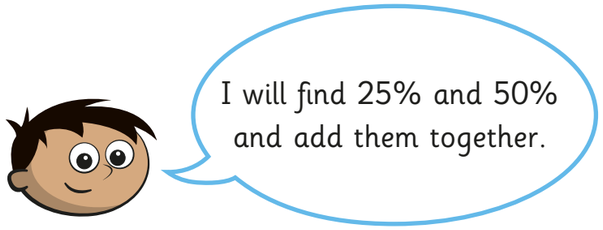



**c)** Use Amir's method to find 75% of 340

**d)** Are there any other methods you could use?

**4** Talk to a partner about different methods for finding these percentages.

20%  90%  60%  15%  55%  40%

Use your preferred method to calculate the percentages.

**a)** 20% of 1,000 =

20% of 550 =

20% of 40 =

**b)** 90% of 1,000 =

90% of 4,230 =

90% of 90 =

**c)** 60% of 1,000 =

60% of 400 =

60% of 98 =

**d)** 15% of 1,000 =

15% of 300 =

15% of 30 =

**e)** 55% of 1,000 =

55% of 4,400 =

55% of 8 =

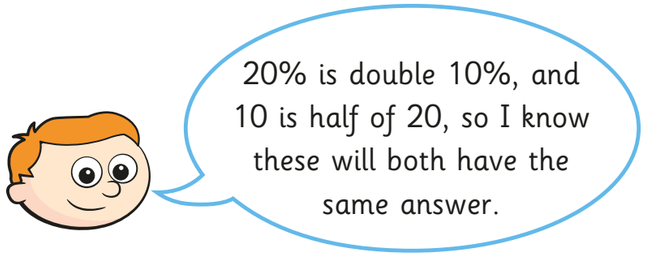
**f)** 40% of 1,000 =

40% of 400 =

40% of 98 =

**5** Ron is calculating these percentages.

10% of 20  20% of 10




How does Ron know this?

**6** **a)** Complete the calculations.

20% of 40 =  25% of 60 =

40% of 20 =  60% of 25 =

**b)** What do you notice about the answers?

**c)** Does this always happen? Investigate with other examples.

**d)** Talk about your findings with a partner.

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