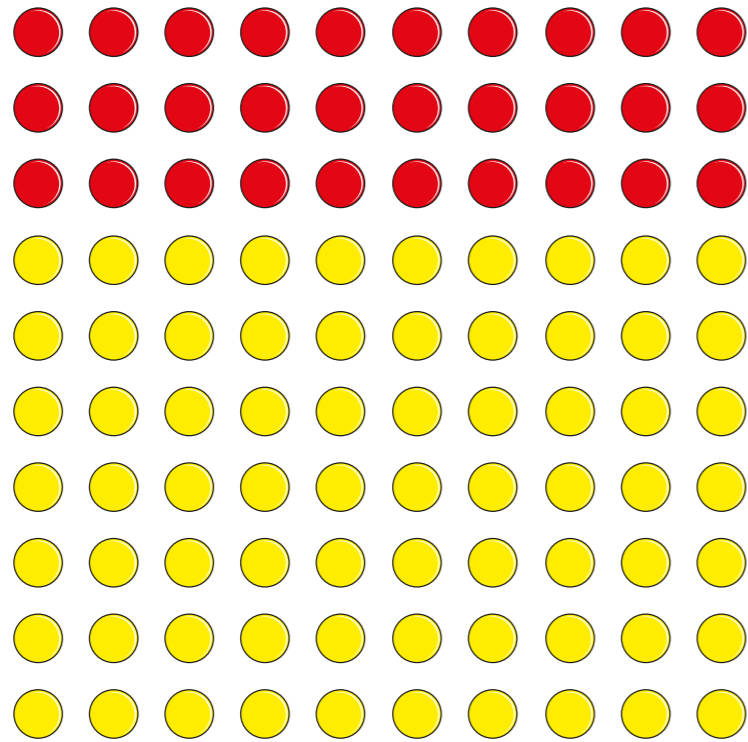




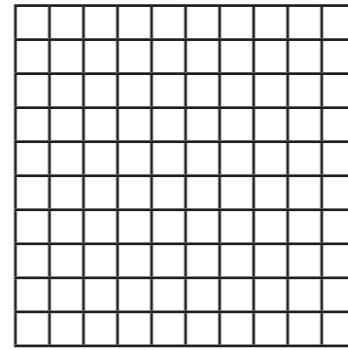
1



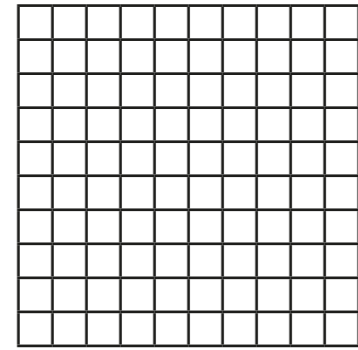
- a) What fraction of the array of counters is red?
- b) What fraction of the array of counters is yellow?
- c) What percentage of the array of counters is red? %
- d) What percentage of the array of counters is yellow? %
- e) What do you notice about the two percentages?

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

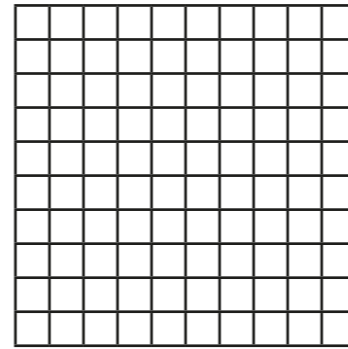
$$\frac{40}{100}$$



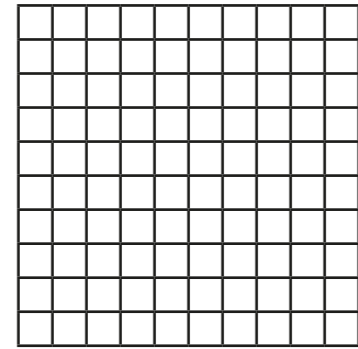
$$\frac{65}{100}$$



$$\frac{1}{2}$$



$$\frac{7}{10}$$



b) Write the fractions as percentages.

$$\frac{40}{100} = \boxed{} \%$$

$$\frac{65}{100} = \boxed{} \%$$

$$\frac{1}{2} = \boxed{} \%$$

$$\frac{7}{10} = \boxed{} \%$$

c) Compare your shaded grids with a partner's. What is the same and what is different?



3 Fill in the missing numbers.

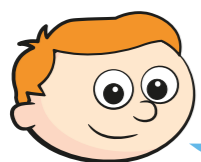
a) $\frac{9}{10} = \frac{\square}{100} = \square\%$

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

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

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

4



$\frac{1}{10}$ is 10%, so $\frac{1}{20}$ must be 20%.

Explain the mistake that Ron has made.

What is the correct answer?

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

5 Convert the fractions to percentages.

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

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

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

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

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

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

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

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

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

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

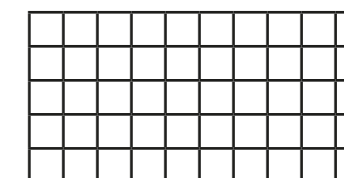
$\frac{4}{20} = \square$

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

e) What do you notice?

6 a) Shade the grid in the given proportions.

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



b) What percentage of the grid is yellow?

$\square\%$

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

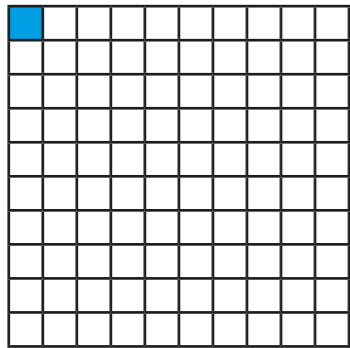


$\frac{\square}{\square} > \square\%$ $75\% = \frac{\square}{4}$ $\frac{3}{\square} < 65\%$

b) Are there any other solutions?

Equivalent FDP

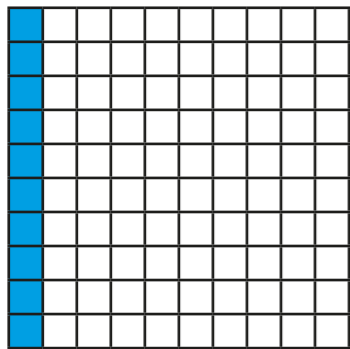
1 What fraction, decimal and percentage of each grid is shaded blue?



fraction =

decimal =

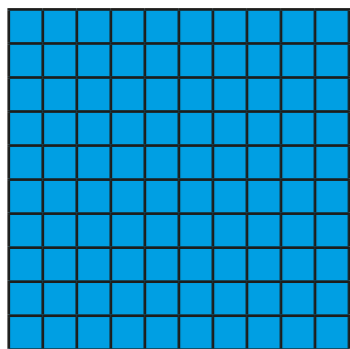
percentage =



fraction =

decimal =

percentage =



fraction =

decimal =

percentage =

2 Match the equivalent fractions, decimals and percentages.

$$\frac{15}{100}$$

$$0.05$$

$$5\%$$

$$\frac{1}{20}$$

$$0.5$$

$$15\%$$

$$\frac{1}{5}$$

$$0.2$$

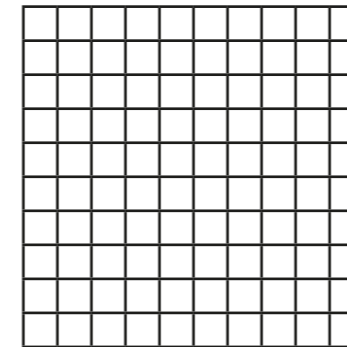
$$50\%$$

$$\frac{1}{2}$$

$$0.15$$

$$20\%$$

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.

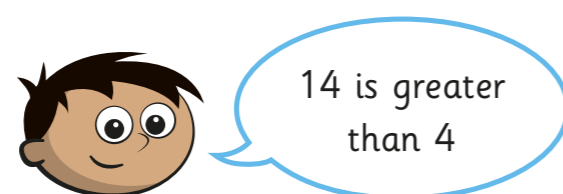
fraction = decimal = percentage =

4 Complete the table.

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

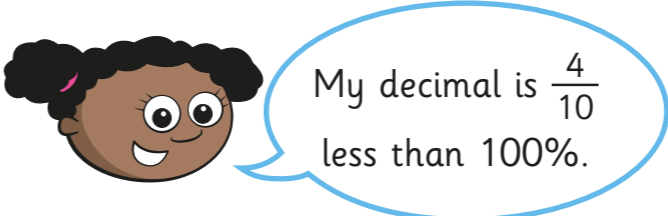
5 Amir was asked to complete the statement using $<$, $>$ or $=$.

14% $>$ 0.4

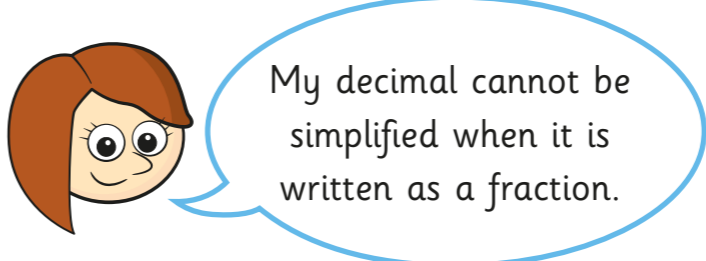


What mistake has Amir made?

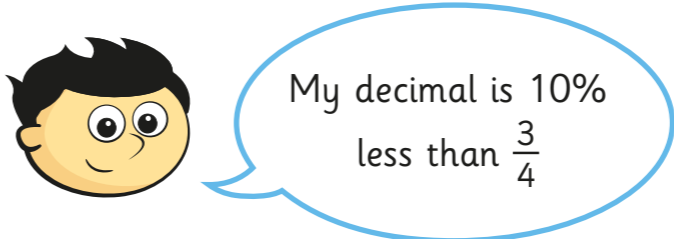
6 Match the decimal cards to the people.



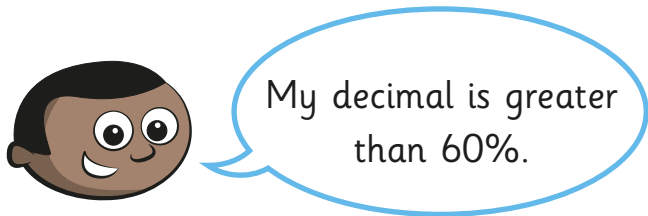
0.65



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?

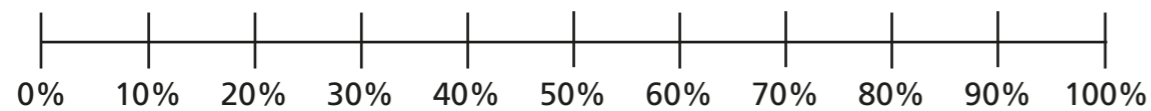
Order FDP

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

- a) 64% 0.46 d) 0.8 80%
 b) 0.96 $\frac{97}{100}$ e) 67% $\frac{7}{10}$
 c) $\frac{3}{5}$ 35% 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?



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.



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

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%.



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

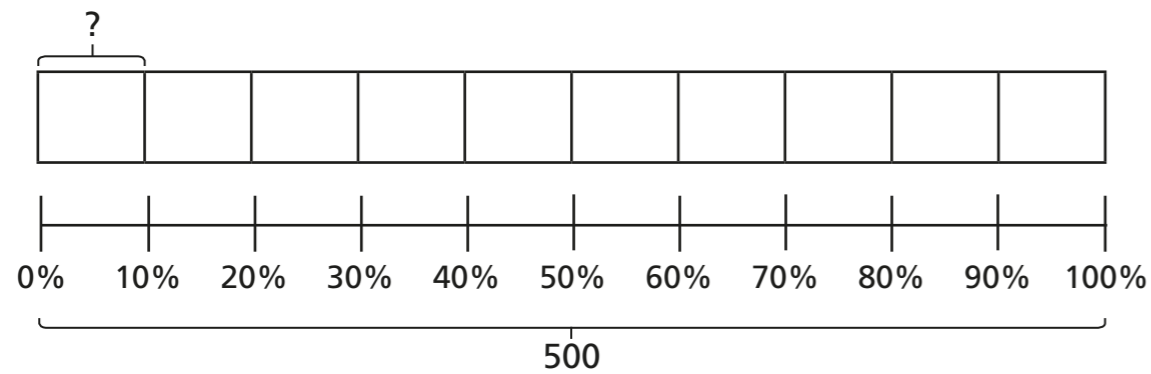
How many different percentages can you find?

Compare answers with a partner.



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 =

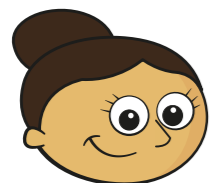
90% of 500 =

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 =

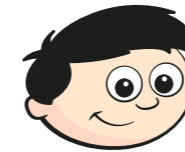
e) 5% of 6,000 =

c) 5% of 4,000 =

What do you notice about your answers?

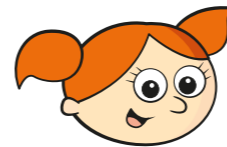
3

Some children are asked to find 75% of 340



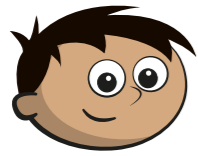
I will find 25% and multiply it by 3

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



I will find 25% and 50% and add them together.

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 = d) 15% of 1,000 =

20% of 550 = 15% of 300 =

20% of 40 = 15% of 30 =

b) 90% of 1,000 = e) 55% of 1,000 =

90% of 4,230 = 55% of 4,400 =

90% of 90 = 55% of 8 =

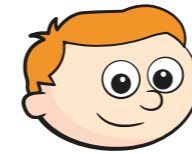
c) 60% of 1,000 = f) 40% of 1,000 =

60% of 400 = 40% of 400 =

60% of 98 = 40% of 98 =

5 Ron is calculating these percentages.

10% of 20 20% of 10



20% is double 10%, and 10 is half of 20, so I know these will both have the same answer.

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.

