

WA6MNAUN5

Understanding number

Core + Challenge

Fractions, Decimals and Percentages

I can connect familiar percentages to fractions and decimals, including on a number line.

Name: _____ Date: _____ Score: _____ / 56

Key idea

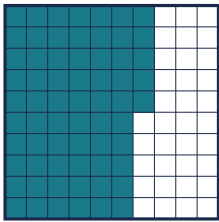
Per cent (%) means **out of 100**. A 100-grid with 65 squares shaded shows $\frac{65}{100} = 0.65 = 65\%$.

To write a fraction as a percentage, rename it **out of 100**: $\frac{9}{10} = \frac{90}{100} = 90\%$.

To write a percentage as a decimal, think hundredths: $65\% = 65 \text{ hundredths} = 0.65$.

A **double number line** shows decimals on top and percentages underneath, lined up.

65 out of 100



Double number line



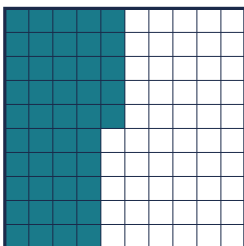
A

Warm up *shade, convert and mark*

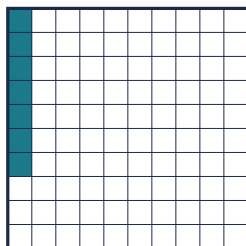
/ 16 marks

What **percentage** of each grid is shaded? 1 mark each.

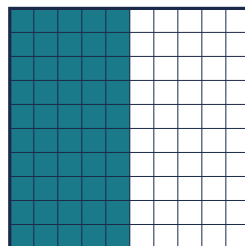
1



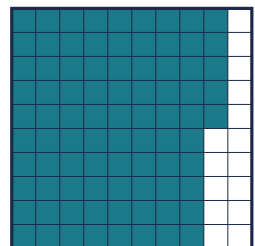
2



3



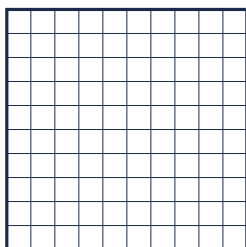
4



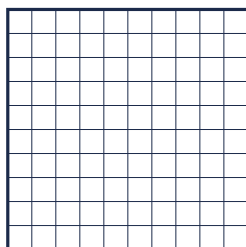
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Shade the grid to show each amount. 1 mark each.

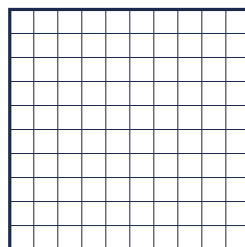
5 25%



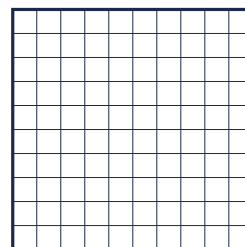
6 0.6



7 three quarters



8 1%



Write the percentage at each letter. 1 mark each.



9 A

10 B

11 C

12 D

Fill in the box. 1 mark each.

13 $\frac{1}{2} = \square\%$

14 $0.2 = \square\%$

15 $75\% = \square$
(decimal)

16 $1\% = \frac{\square}{100}$

B Practise use the skill

/ 21 marks

1 Complete the table.

[3 marks]

Fraction	Decimal	Percentage
$\frac{1}{4}$		
	0.1	
		20%
$\frac{3}{4}$		
		1%

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- 2 Draw a line to join each fraction or decimal to the matching percentage.

[2 marks]

$\frac{1}{5}$	•	•	1%
0.5	•	•	75%
$\frac{3}{4}$	•	•	20%
0.01	•	•	50%

- 3 Mia's tablet battery shows **40%**. Shade the battery to show this. Write 40% as a fraction and as a decimal.

[2 marks]



Answer: _____

- 4 Mark and label these on the double number line: 0.3, $\frac{1}{5}$, 75%, $\frac{1}{10}$

[2 marks]



- 5 At netball training, Zoe scores **7** goals from **10** shots. Ava scores **3** goals from **4** shots. **a)** Write each girl's success rate as a percentage. **b)** Who has the better success rate?

[3 marks]

Answer: _____

- 6 A Lego set costs the same at two shops. Kmart has **25% off**. Big W has $\frac{1}{5}$ off. **a)** What fraction of the price is taken off at Kmart? **b)** Which shop takes off more? Explain.

[2 marks]

Answer: _____

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- 7 100 students voted for their favourite sport. Complete the table. What percentage voted for netball **or** basketball? [3 marks]

Sport	Students	Fraction	Decimal	Percentage
AFL	35			
Netball	25		0.25	
Soccer	30			30%
Basketball	10			

Answer: _____

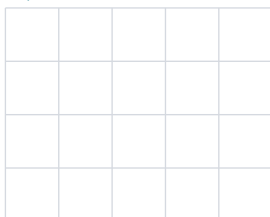
- 8 Write these from **smallest** to **largest**. Mark them on the line to help. 0.3, 25%, $\frac{1}{5}$, 0.45, $\frac{3}{4}$ [2 marks]



Answer: _____

- 9 a) Shade 20% of the grid. b) Shade 75% of the bar. [2 marks]

a)



b)



C**Think it through** *explain your thinking*

/ 10 marks

- 1 Leo says, “0.5 is the same as 5%.” Do you agree with Leo? Explain. [2 marks]

- 2 **True or false?** “20% is double 10%, so $\frac{1}{5}$ is double $\frac{1}{10}$.” Explain, using a diagram or equal fractions. [2 marks]

- 3 **Always, sometimes or never true?** “To change a decimal to a percentage, you just take away the decimal point.” Circle one and give examples. [2 marks]

Always / Sometimes / Never

- 4 Which is the **odd one out**? 0.4, $\frac{2}{5}$, 40%, $\frac{4}{100}$. Explain. [2 marks]

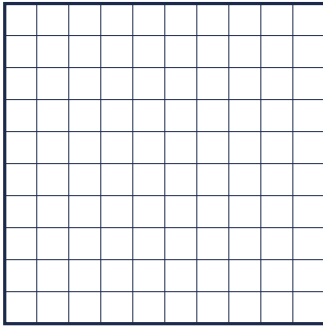
- 5 Sort these into the table: 45%, 0.6, $\frac{1}{4}$, 75%, 0.05, $\frac{3}{4}$, 50%, 0.1. Where did you put **50%**? Why? [2 marks]

	Written as a percentage	Not a percentage
Less than $\frac{1}{2}$		
$\frac{1}{2}$ or more		

D**Challenge** *stretch yourself*

/ 9 marks

- 1 On the grid, shade **25%** of the squares and label them A. Then shade $\frac{1}{5}$ of the squares that are **left** and label them B. Then shade **0.4** of the squares that are **still** unshaded and label them C. What percentage of the grid is **not** shaded? Write it as a fraction and a decimal too. [3 marks]



Answer: _____

- 2 Ella's test results were: Maths $\frac{15}{20}$, Science **0.7**, English $\frac{4}{5}$ and Art $\frac{18}{25}$. **a)** Write each result as a percentage, then order the subjects from **best** to **worst**. **b)** Her next Science test is out of **50**. What score would equal her English percentage? [3 marks]

Answer: _____

- 3 Use two of the cards **1**, **2**, **4** and **5** to make a fraction **less than 1** (like $\frac{2}{5}$). Find **all** the possible fractions and write each as a decimal and a percentage. Which two fractions are equal? [3 marks]

Answer: _____

How did I go?Warm up ____ / 16 Practise ____ / 21 Think it through ____ / 10 Challenge ____ / 9 **Total ____ / 56**Want help with Year 6 maths? Our tutors make it click. **Book a free trial class at [edulift.com.au](https://www.edulift.com.au)**