Maths Activity – Percentages

Click the links below to revise percentages

) What is a percentage?

How to find a percentage of a number

J Understanding percentages

Warming up *

Q1.

20% of 3,000 =



35% of 320 =



51% of 900 =





Q4.

36% of 450 =



Q5.

20% of 1,200 =

Q6.

99% of 200 =

Q7.

28% of 650 =



45% of 460 =



Feeling confident **

Q1.

Jack has £400

He spends **35%** of his money on a new bike.



How much does Jack spend on his new bike?



1 mark

Q2.

What is 10% of a half?



What percentage of 20 is 19?



A cat sleeps for **12 hours** each day.

50% of its life is spent asleep.

Write the missing percentage.

A koala sleeps for **18 hours** each day.



of its life is spent asleep.



1 mark

Q4.



Estimate the percentage of mixture that is suet.

%

Mina uses 100 grams of millet in the mixture.

Estimate how many grams of sunflower seeds she should use.



Q5.

200 children went on holiday.

10% of the children went to Wales.

25% of the children went to Scotland.

How many more children went to Scotland than went to Wales?



2 marks

Q6.

20% of the children in a sports club play tennis.







There are 8 children in the club who play **both** tennis and rounders.

How many children are there in the sports club altogether?



2 marks

Q7.

In a survey of children's favourite fruit juices, these were the results.

Juice	Apple	Orange	Grape	Mango
Percentage of children	25%	14%	30%	31%

(a) **20 more** children chose grape than chose apple.

How many children took part in the survey?



2 marks

(b) Chen makes a pie chart to show the results.

What angle should he use for the children who chose mango?





Q8.

20% of Megan's number is 64

What is 50% of Megan's number?



2 marks

Q9.

Amina asked 60 children to choose their favourite flavour of jelly.

These were her results.

Flavour	Number of children	
Raspberry	12	
Lemon	8	
Orange	15	
Blackcurrant	25	
Total	60	

What percentage of the 60 children chose orange?



1 mark

Q10.

Liam did a survey of 55 people to see how many were left-handed.

Liam says,

'The results show that exactly 10% of the people in the survey are left-handed.'

Explain why Liam cannot be correct.



1 mark

Challenge ***

Copy this grid into your book:

		125
300		

Complete the grid using these clues:

- 1. The number in the top left square is 25% of 600
- 2. The number in the bottom right square is 4% of the number in the top right square
- 3. The number to the left of 5 is 60% of the number in the top left
- 4. The numbers in the bottom row add up to 335 increased by 20%
- 5. The numbers in the top row total 35% of 1060; two of these numbers are the same.
- 6. The number below 125 is 45% of 300
- 7. The numbers in the last column total 200 increased by 50%
- 8. The number below 150 is 60% of the number above 5
- 9. The number above 7 is 30% of the number next to 5
- 10. The total in the first column is 400 increased by 25%
- 11. The number above 90 is 20% of 90
- 12. The number above 27 is 40% of 50
- 13. The number next to 135 is 10% of the number in the bottom right square

Answers

Warming up*

Mark schemes

Q1.

600

Do not accept 600%

Q2.

112

Do not accept 112%

[1]

[1]

Q3.

	459	Do not accept 459%	[1]
Q4	1 62	Do not accept 162%	[1]
Q5	240	Do not accept 240%	[1]
Q6	. 198	Do not accept 198%	[1]
Q7	. 182	Do not accept 182%	[1]
Q8	207	Do not accept 207%	[1]

Feeling confident **

Mark schemes

Q1.

£140

Do not accept 14

Q2.

(a) $\frac{1}{20}$ or equivalent

Accept equivalent fractions, decimals or percentages, eg:

- 5%0.05
 - 5
- 100

Do not accept 5 without a percentage sign

1

1

[1]

[2]

[1]

- - Do not accept equivalent fractions or decimals

Q3.

(b)

95

75

Q4.

.			
(a)	Answer in the range 15% inclusive to 25% exclusive		
	Do not accept 25%		
		1	
(b)	Answer in the range 200 g to 400 g exclusive		
	Do not accept 200 g OR 400 g.		
		1	
			[2]

Q5.

Award TWO marks for a correct answer of 30

If the answer is incorrect, award **ONE** mark for evidence of appropriate working, eg:

10% of 200 = 20 25% of 200 = 50 50 - 20 = wrong answer

OR

25% - 10% = 15%

15% of 200 = wrong answer

Working must be carried through to reach an answer for the award of **ONE** mark.

Up to 2m

2

1

[2]

Q6.

160

or

32 seen (*number who play tennis*) **Do not accept** 32% seen

OR

Shows or implies a complete correct method, eg:

- 8 × 4 × 5
- 25% of tennis is 8
 8 × 4 = 24 (*error*) tennis is 20% of sports club 24 × 5 = 120

[2]

Q7.

(a) 400

or

Shows or implies a complete correct method, eg:

30% - 25% = 5%
5% = 20

(b) 111.6 **or** 112

Q8.

Award TWO marks for the correct answer of 160

If the answer is incorrect, award **ONE** mark for evidence of appropriate working, eg:

• 64 ÷ 2 = 32

64 + 64 + 32 = wrong answer

OR

• 64 × 5 = 320

320 ÷ 2 = wrong answer Working must be carried through to reach an answer for the award of **ONE** mark.

Up to 2 U1

[2]

Q9.

25

2

1

1

[3]

Q10.

An explanation which recognises that 10% of 55 is not a whole number, eg:

'10% of 55 is $5\frac{1}{2}$, and you can't have $5\frac{1}{2}$ people' 'It wouldn't be a whole number of people' 'No whole number out of 55 will give you 10%' 'If it was 5 people, 5 out of 55 isn't 10%. 6 out of 55 isn't 10% either' 'Because you can't have half a person.' $5\frac{1}{2}$, **Do not** accept vague or incomplete explanations, eg:

'You can't get 10% of 55' 'Some children write with both hands'.

U1

[1]

Challenge ***

150	48	48	125
21	20	0.5	135
29	27	18	35
300	7	90	5