



11+ Percentages Revision

Test your skills • Challenge yourself • Build confidence

Suitable for GL, Independent Schools, and
Grammar School Preparation

BEFORE YOU BEGIN

Percentages are an important part of 11+ mathematics. You may be asked to find a percentage of an amount, work out a percentage increase or decrease, compare quantities, or solve a problem where the percentage is not immediately obvious.

Remember:

% means “out of 100”.

For example:

$$25\% = 25/100 = 1/4$$

Useful reminders

- To find 10%, divide by 10.
- To find 50%, halve the amount.
- To find 25%, divide by 4.
- To find a percentage of an amount, you can convert the percentage to a decimal or fraction.
- Read carefully for words such as increase, decrease, discount, profit and original.

11+ PERCENTAGES CHALLENGE

20 questions. 4 levels.

How far can you get?

Section 1

Getting Started

1. Write 35% as a fraction in its simplest form.

2. Write 0.72 as a percentage.

3. Find 25% of 160.

4. Find 15% of £80.

5. There are 240 pupils in a school. 30% of the pupils walk to school. How many pupils walk to school?

Section 2

Core 11+ Challenge

6. A book costs £24. The price is increased by 25%. What is the new price?

7. A coat originally costs £80. It is reduced by 15% in a sale.

What is the sale price?

8. A test has 40 questions. Amira answers 85% of the questions correctly. How many questions does she answer correctly?

9. There are 360 sweets in a box. 35% are strawberry flavour.

How many sweets are strawberry flavour?

10. A football team's attendance increases from 400 people to 500 people. What is the percentage increase?

Section 3

Think Carefully

11. A jacket is reduced by 20% in a sale. The sale price is £56.

What was the original price?

12. A school has 600 pupils. 45% are girls. How many boys are there?

13. Tom scores 42 marks out of 60 in a test. What percentage did he score?

14. A shop buys a bicycle for £120 and sells it for £150.

What is the percentage profit?

15. A number is increased by 20%. The new number is 72.

What was the original number?

Section 4

11+ Stretch

16. A school has 800 pupils.

On Monday, 60% of the pupils attend school.

On Tuesday, attendance increases by 5 percentage points.

How many pupils attend school on Tuesday?

Answer: _____ pupils

17. A shop offers 20% off a £75 coat. A customer then uses a voucher for a further 10% off the sale price.

What is the final price?

Answer: £_____

18. A tank is 75% full and contains 45 litres of water. What is the full capacity of the tank?

Answer: _____ litres

19. A number is increased by 25% and then decreased by 20%.

The final number is 120.

What was the original number?

Answer: _____

20. A school has 500 pupils.

40% study French.

Of the pupils who study French, 30% also study Spanish.

How many pupils study both French and Spanish?

Answer: _____ pupils

Well Done!

You've completed the Acumen Teach 11+ Percentages Challenge.

Before checking your answers, go back through any questions you found difficult.

Ask yourself:

Did I...

- ☐ Read the question carefully?
 - ☐ Identify what the percentage represented?
 - ☐ Choose the right method?
 - ☐ Check whether my answer was sensible?
 - ☐ Show enough working to explain my thinking?
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ANSWERS

1.

$$35/100 = 7/20$$

Answer: 7/20

2.

$$0.72 \times 100 = 72$$

Answer: 72%

3.

$$25\% = 1/4$$

$$160 \div 4 = 40$$

Answer: 40

4.

$$10\% \text{ of } £80 = £8$$

$$5\% = £4$$

$$15\% = £12$$

Answer: £12

5.

$$30\% \text{ of } 240 = 72$$

Answer: 72 pupils

6.

$$25\% \text{ of } £24 = £6$$

$$£24 + £6 = £30$$

Answer: £30

7.

$$15\% \text{ of } £80 = £12$$

$$£80 - £12 = £68$$

Answer: £68

8.

$$85\% \text{ of } 40 = 34$$

Answer: 34 questions

9.

$$35\% \text{ of } 360 = 126$$

Answer: 126 sweets

10.

$$\text{Increase} = 500 - 400 = 100$$

100 is 25% of 400.

Answer: 25%

11.

After a 20% reduction, the sale price represents 80% of the original price.

$$£56 \div 0.8 = £70$$

Answer: £70

12.

45% are girls, so 55% are boys.

$$55\% \text{ of } 600 = 330$$

Answer: 330 boys

13.

$$42 \div 60 \times 100 = 70$$

Answer: 70%

14.

$$\text{Profit} = \text{£}150 - \text{£}120 = \text{£}30$$

£30 is 25% of £120.

Answer: 25%

15.

72 represents 120% of the original number.

$$72 \div 1.2 = 60$$

Answer: 60

16.

Tuesday attendance = 60% + 5 percentage points = 65%

$$65\% \text{ of } 800 = 520$$

Answer: 520 pupils

17.

20% off £75:

$$\text{£}75 \times 0.8 = \text{£}60$$

Then 10% off £60:

$$\text{£}60 \times 0.9 = \text{£}54$$

Answer: £54

18.

$$75\% = 45 \text{ litres}$$

$$100\% = 45 \div 0.75 = 60$$

Answer: 60 litres

19.

After a 25% increase, the number is multiplied by 1.25.

It is then decreased by 20%, so it is multiplied by 0.8.

$$1.25 \times 0.8 = 1$$

Therefore, the final number is the same as the original number.

Answer: 120

20.

$$40\% \text{ of } 500 = 200 \text{ pupils study French.}$$

$$30\% \text{ of } 200 = 60.$$

Answer: 60 pupils