Percentages: exam questions

10 questions · 27 marks · mark schemes at the end

Name _____ Date _____ Score / 27

- Calculators are allowed on both 4MA1 Higher papers (1H and 2H). Show your working: most marks are for method.
- Mark schemes start after the questions. M marks are for a correct method, A marks for an accurate answer that follows a correct method, and B marks for a correct result on its own.
- Online, with more practice: igcsemathrevision.com/igcse-frontend/4ma1/exam-questions/percentages

1. **2 marks**

Increase £640 by 15%.

2. **3 marks**

In a sale, the price of a coat is reduced by 20%. The sale price is £68.

Work out the price before the sale.

3. **3 marks**

Priya invests £5000 for 4 years at 3.2% per year compound interest.

Work out the value of her investment at the end of the 4 years. Give your answer to the nearest penny.

4. **3 marks**

A car was bought for £18 000. Its value falls by 12% each year.

Work out its value after 3 years.

5. **2 marks**

The price of a ticket rises from £45 to £52.20.

Work out the percentage increase.

6. **3 marks**

Leo invested some money at 4% per year compound interest. After 2 years he had £2704.

How much did Leo invest?

7. **4 marks**

Mia has £2000 to save for 3 years. She can choose:

Account A: 5% per year simple interest.

Account B: 4.8% per year compound interest.

Which account gives Mia more money at the end of 3 years? You must show your working.

8. **2 marks**

The price of a jacket is £84. This includes VAT at 20%.

Work out the price of the jacket before VAT.

9. **2 marks**

The number of members of a gym goes up by 10% one year and down by 10% the next year.

Work out the overall percentage change over the two years.

10. **3 marks**

A colony of 800 bacteria grows by 15% every hour.

After how many whole hours will the colony first be greater than 2000?

Answers and worked solutions

Question 1 — 2 marks

M1 640×1.15, or $640 \times 0.15 = 96$

A1 £736

Answer: £736

Question 2 — 3 marks

M1 80% (or 0.8) is £68

M1 $68 \div 0.8$

A1 £85

Answer: £85

Question 3 — 3 marks

M1 multiplier 1.032

M1 5000×1.032^4

A1 £5671.38

Answer: £5671.38

Question 4 — 3 marks

M1 multiplier 0.88

M1 $18\,000 \times 0.88^3$

A1 £12 266.50

Accept £12 266.496 or £12 266.

Answer: £12 266.50

Question 5 — 2 marks

M1 $\dfrac{52.20 - 45}{45} \times 100$ or $\dfrac{52.20}{45} = 1.16$

A1 16%

Answer: 16%

Question 6 — 3 marks

M1 $1.04^2 = 1.0816$

M1 $2704 \div 1.0816$

A1 £2500

Answer: £2500

Question 7 — 4 marks

M1 Account A: $2000 \times 0.05 \times 3 = 300$, total £2300

M1 Account B: 2000×1.048^3

A1 £2302.05 (to the nearest penny)

A1 Account B, with £2300 and £2302.05 seen

Answer: Account B (£2302.05 against £2300)

Question 8 — 2 marks

M1 $84 \div 1.2$

A1 £70

Answer: £70

Question 9 — 2 marks

M1 $1.1 \times 0.9 = 0.99$

A1 1% decrease

Answer: a 1% decrease

Question 10 — 3 marks

M1 800×1.15^n

M1 $n = 6$ gives $1850.4\ldots$ and $n = 7$ gives $2127.9\ldots$

A1 7 hours

Answer: 7 hours

Online, with every solution: igcsemathrevision.com/igcse-frontend/4ma1/exam-questions/percentages
Our own original questions, written and checked by IGCSE Math Revision. Independent, not affiliated with Pearson Edexcel.