Linear Equations: exam questions

10 questions · 30 marks · mark schemes at the end

Name _____ Date _____ Score / 30

- 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/linear-equations

1. **2 marks**

Solve $7x - 4 = 3x + 18$.

2. **3 marks**

Solve $3(2x - 5) = 4(x + 1)$.

3. **3 marks**

Solve $\dfrac{5x + 3}{4} = 2x - 3$.

4. **3 marks**

The angles of a triangle are $(x + 15)°$, $2x°$ and $(3x - 15)°$.

Work out the size of the largest angle.

5. **4 marks**

A rectangle has length $(2x + 3)$ cm and width $(x - 1)$ cm. Its perimeter is 34 cm.

Work out the area of the rectangle.

6. **3 marks**

Solve $\frac{x}{3} + \frac{x}{4} = 14$.

7. **3 marks**

Tom is three times as old as Ann. In 8 years' time Tom will be twice as old as Ann.

How old is Ann now?

8. 3 marks

Solve $5 - 2(x - 3) = 4x - 7$.

9. 3 marks

Solve $\frac{2x - 1}{3} - \frac{x + 2}{5} = 1$.

10. 3 marks

A taxi firm charges a fixed amount of £3.50 plus £1.80 for each mile. A journey costs £21.50.

How many miles long was the journey?

Answers and worked solutions

Question 1 — 2 marks

M1 $4x = 22$

A1 $x = 5.5$

Answer: $x = 5.5$

Question 2 — 3 marks

M1 $6x - 15 = 4x + 4$

M1 $2x = 19$

A1 $x = 9.5$

Answer: $x = 9.5$

Question 3 — 3 marks

M1 $5x + 3 = 4(2x - 3)$

M1 $15 = 3x$

A1 $x = 5$

Answer: $x = 5$

Question 4 — 3 marks

M1 $x + 15 + 2x + 3x - 15 = 180$

A1 $x = 30$

A1 $75°$

Answer: $75°$

Question 5 — 4 marks

M1 $2(2x + 3) + 2(x - 1) = 34$

M1 $6x + 4 = 34$

A1 $x = 5$, so the sides are 13 cm and 4 cm

A1 $52\,\text{cm}^2$

Answer: $52\,\text{cm}^2$

Question 6 — 3 marks

M1 $4x + 3x = 168$

M1 $7x = 168$

A1 $x = 24$

Answer: $x = 24$

Question 7 — 3 marks

M1 Ann a, Tom $3a$: $3a + 8 = 2(a + 8)$

M1 $3a + 8 = 2a + 16$

A1 8 years old

Answer: 8 years old

Question 8 — 3 marks

M1 $5 - 2x + 6 = 4x - 7$

M1 $18 = 6x$

A1 $x = 3$

Answer: $x = 3$

Question 9 — 3 marks

M1 $5(2x - 1) - 3(x + 2) = 15$

M1 $7x - 11 = 15$

A1 $x = \dfrac{26}{7}$

Answer: $x = \dfrac{26}{7}$

Question 10 — 3 marks

M1 $3.50 + 1.80m = 21.50$

M1 $18 \div 1.80$

A1 10 miles

Answer: 10 miles

Online, with every solution: igcsemathrevision.com/igcse-frontend/4ma1/exam-questions/linear-equations
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