ENGLAND GCSE MATHS OCR FOUNDATION · UNIT 3 · 25 QUESTIONS

Algebra, Notation, Vocabulary and Manipulation — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **A hardcover book costs b pounds. The cost, in pounds, of 5 hardcover books is**

- **A** $5b^2$
- **B** b^5
- **C** $b + 5$
- **D** $5b$

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2 **Give your answer in its simplest form 4p + 5b + 2p - 2b, where p is the number of paintbrushes and b is the number of hardcover books.**

- A 6p + 7b
- B 3b
- C 6p + 3b
- D 6p

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3 **A sandwich costs s pounds. The cost, in pounds, of 4 sandwiches and a £4 drink is**

- A 5s + 4
- B 4s - 4
- C 4(s + 4)
- D 4s + 4

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4 **The height of a rocket, in metres, after t seconds is $h = 15t - 5t^2$. When t = 2, the height is**

- A 5
- B 10
- C 30
- D 15

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5 **Give your answer in its simplest form 3a + 4b + 4a - 2b, where a is the number of red apples and b is the number of lemons.**

- A 7a + 6b
- B 7a
- C 2b
- D 7a + 2b

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6 **A tennis ball costs a pounds. The total cost, in pounds, of 3 tennis balls is**

- A a^3
- B $a + 3$
- C $3a$
- D $3a^2$

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7 **Expand $(x - 1)(x - 2)$**

- A $x^2 + 3x + 2$
- B $x^2 - 3x - 2$
- C $x^2 - 3x + 2$
- D $x^2 + x + 2$

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8 **Expand $(x - 4)^2$**

A $x^2 - 8x + 16$

B $x^2 + 16$

C $x^2 - 8x - 16$

D $x^2 - 4x + 16$

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9 **Give your answer in its simplest form 2a + 4b - 2a + 5b**

A -b

B 9b

C 4a + 9b

D 9a

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10 $(x^3)^2$ is equal to

- A x^9
- B x^5
- C x^6
- D x^7

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11 Write an expression for 9 less than 6 times a number x

- A 6x - 9
- B 6x + 9
- C 9x - 6
- D 9 - 6x

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12 **Factorise $x^2 - 2x - 15$**

- A $(x + 5)(x - 3)$
- B $(x - 5)(x - 3)$
- C $(x - 5)(x + 3)$
- D $(x + 5)(x + 3)$

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13 **Expand $3x(4x - 1)$**

- A $12x^2 + 3x$
- B $12x^2 - 3x$
- C $12x^2 - x$
- D $7x^2 - 3x$

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14 **Factorise $5x + 25$**

- **A** $5(x - 5)$
- **B** $5(x + 5)$
- **C** $x(5 + 5)$
- **D** $5(x + 25)$

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15 **Give your answer in its simplest form** $\frac{12x^2}{4x}$

- **A** $3x$
- **B** x
- **C** $3x^2$
- **D** $\frac{x}{3}$

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16 **If $x = 4$, the value of $3x^2 - 1$ is**

A 49

B 71

C 11

D 47

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17 **Expand $(x - 4)(x - 3)$**

A $x^2 - 7x + 12$

B $x^2 - x + 12$

C $x^2 + 7x + 12$

D $x^2 - 7x - 12$

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18 **Expand $(x + 7)^2$**

A $x^2 + 14x + 49$

B $x^2 + 14x - 49$

C $x^2 + 7x + 49$

D $x^2 + 49$

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19 **Give your answer in its simplest form 5a + 6b - a + b**

A 6a + 7b

B 4a + 7b

C 4b + 7a

D 4a + 5b

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20 $x^5 \times x^2$ is equal to

- A x^7
- B x^8
- C x^3
- D x^{10}

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21 Write an expression for 3 less than 4 times a number x

- A 4x + 3
- B 4x - 3
- C 3 - 4x
- D 3x - 4

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22 **Factorise $x^2 - 25$**

A $(x + 5)(x + 5)$

B $(x + 5)(x - 5)$

C $(x - 5)(x - 5)$

D $(x - 5)(x + 5)$

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23 **Expand $3x(4x - 3)$**

A $12x^2 - 3x$

B $12x^2 - 9x$

C $12x^2 + 9x$

D $7x^2 - 9x$

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24 **Factorise $7x + 49$**

- **A** $7(x + 7)$
- **B** $7(x - 7)$
- **C** $7(x + 49)$
- **D** $x(7 + 7)$

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25 **Give your answer in its simplest form** $\frac{15x^2}{5x}$

- **A** $3x$
- **B** $\frac{x}{3}$
- **C** $3x^2$
- **D** x

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ANSWER KEY

1. D
2. C
3. D
4. B
5. D
6. C
7. C
8. A
9. B
10. C
11. A
12. C
13. B
14. B
15. A
16. D
17. A
18. A
19. B
20. A
21. B
22. D
23. B
24. A
25. A

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