ENGLAND GCSE MATHS EDEXCEL HIGHER · UNIT 5 · 25 QUESTIONS

Algebra, Equations and Inequalities — 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 bicycle costs x pounds. After a £50 discount it costs £200. The value of x is**

- A £150
- B £260
- C £200
- D £250

Understand It with Pulse | Flag a mistake

2 **Two hardcover books and one calculator cost £16. One hardcover book and two calculators cost £17. The cost of one calculator is**

A £8

B £5

C £7

D £6

Understand It with Pulse | Flag a mistake

3 **A sandwich costs x pounds. 4 sandwiches cost £20. The value of x is**

A £5

B £6

C £20

D £4

Understand It with Pulse | Flag a mistake

4 **A tennis ball costs x pounds. A tube of 4 tennis balls costs £20. The value of x is**

- A £6
- B £20
- C £4
- D £5

Understand It with Pulse | Flag a mistake

5 **A guitar costs x pounds. Two guitars and a £20 case cost £140. The value of x is**

- A £65
- B £55
- C £120
- D £60

Understand It with Pulse | Flag a mistake

6 **A cup of coffee costs x pounds. 3 cups of coffee cost £15. The value of x is**

A £4

B £6

C £5

D £15

Understand It with Pulse | Flag a mistake

7 **Solve 5(x + 3) = 55**

A x = 11

B x = 8

C x = 10

D x = 7

Understand It with Pulse | Flag a mistake

8 **Solve the simultaneous equations $y = x^2$ and $y = 3x - 2$. Give the larger value of x.**

A $x = 2$

B $x = 1$

C $x = -1$

D $x = 3$

Understand It with Pulse | Flag a mistake

9 **Solve the inequality $6x + 7 < 31$**

A $x > 4$

B $x < 4$

C $x \leq 4$

D $x < 5$

Understand It with Pulse | Flag a mistake

10 **The formula v = u + at gives v = 18 when u = 6, a = 3 and t = 4. Rearrange the formula to make t the subject.**

- **A** t = v - u - a
- **B** t = v + u/a
- **C** t = v - u/a
- **D** t = (v - u) × a

Understand It with Pulse | Flag a mistake

11 **Which inequality is shown by the integers x that satisfy x > 4 and x ≤ 8?**

- **A** $4 \leq x < 8$
- **B** $4 < x < 8$
- **C** $4 < x \leq 8$
- **D** $x > 4$

Understand It with Pulse | Flag a mistake

12 **Solve 4x - 3 = 29**

A x = 8

B x = 9

C x = 7

D x = 11

Understand It with Pulse | Flag a mistake

13 **Solve $x^2 + 4x + 4 = 0$**

A x = 2 or x = 2

B x = 2

C x = 2 or x = 3

D x = -2 or x = -2

Understand It with Pulse | Flag a mistake

14 **Write $x^2 + 8x + 19$ in the form $(x + p)^2 + q$**

- **A** $(x + 4)^2 - 3$
- **B** $(x + 4)^2 + 3$
- **C** $(x + 4)^2 + 19$
- **D** $(x - 4)^2 + 3$

Understand It with Pulse | Flag a mistake

15 **Solve $4x + 5 = 2x + 19$**

- **A** $x = 7$
- **B** $x = 6$
- **C** $x = 8$
- **D** $x = 4$

Understand It with Pulse | Flag a mistake

16 **Solve the simultaneous equations x + y = 7, x - y = -1**

A x = 4, y = 4

B x = 3, y = 5

C x = 4, y = 3

D x = 3, y = 4

Understand It with Pulse | Flag a mistake

17 **The iteration $x_{n+1} = x_n^2 + 3/4$ starts with $x_1 = 2$. Calculate x_2.**

A 1.75

B 2.5

C 1.25

D 4

Understand It with Pulse | Flag a mistake

18 **Solve the inequality $x^2 < 16$**

A $x < -4$ or $x > 4$

B $-4 < x$

C $x < 4$

D $-4 < x < 4$

Understand It with Pulse | Flag a mistake

19 **Solve $2(x + 3) = 16$**

A $x = 7$

B $x = 5$

C $x = 4$

D $x = 8$

Understand It with Pulse | Flag a mistake

20 **Solve the inequality 2x + 7 < 19**

- **A** $x \leq 6$
- **B** $x > 6$
- **C** $x < 7$
- **D** $x < 6$

Understand It with Pulse | Flag a mistake

21 **The formula v = u + at gives v = 23 when u = 3, a = 4 and t = 5. Rearrange the formula to make t the subject.**

- **A** $t = v + u/a$
- **B** $t = v - u/a$
- **C** $t = v - u - a$
- **D** $t = (v - u) \times a$

Understand It with Pulse | Flag a mistake

22 **Solve 4x + 5 = 29**

A x = 5

B x = 6

C x = 9

D x = 7

Understand It with Pulse | Flag a mistake

23 **Solve $x^2 + x - 12 = 0$**

A x = -4 or x = 3

B x = -3 or x = 5

C x = -3 or x = 4

D x = 4

Understand It with Pulse | Flag a mistake

24 **Use the quadratic formula to solve $x^2 - 3x + 2 = 0$. Give the larger solution.**

- **A** $x = 3$
- **B** $x = 1$
- **C** $x = 2$
- **D** $x = 4$

Understand It with Pulse | Flag a mistake

25 **Write $x^2 + 4x + 8$ in the form $(x + p)^2 + q$**

- **A** $(x + 2)^2 + 4$
- **B** $(x + 2)^2 + 8$
- **C** $(x - 2)^2 + 4$
- **D** $(x + 2)^2 - 4$

Understand It with Pulse | Flag a mistake

ANSWER KEY

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

© 2026 Brett Robbins. All Rights Reserved.