ENGLAND GCSE MATHS AQA HIGHER · FINAL EXAM · 50 QUESTIONS

Final Exam — 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 **Mia buys a guitar for £50. She pays with £60. How much change does she get?**

- A £10
- B £15
- C £9
- D £11

Understand It with Pulse | Flag a mistake

2 **A bag holds 12 lemons. 5 lemons are used to make lemonade. What fraction of the lemons is left?**

- **A** $\frac{5}{12}$
- **B** $\frac{7}{16}$
- **C** $\frac{2}{3}$
- **D** $\frac{7}{12}$

Understand It with Pulse | Flag a mistake

3 **Simplify 4p + 5b + 4p - b, where p is the number of paintbrushes and b is the number of hardcover books.**

- **A** 8p + 6b
- **B** 4b
- **C** 8p
- **D** 8p + 4b

Understand It with Pulse | Flag a mistake

4 **A passenger aeroplane climbs 300 m for every 2000 m it travels forwards. The gradient of its flight path is**

- **A** $\frac{3}{20}$
- **B** $\frac{20}{3}$
- **C** $\frac{1}{10}$
- **D** $\frac{1}{5}$

Understand It with Pulse | Flag a mistake

5 **A tennis ball costs x pounds. A tube of 4 tennis balls costs £16. The value of x is**

- **A** £16
- **B** £3
- **C** £4
- **D** £5

Understand It with Pulse | Flag a mistake

6 **Hardcover books are arranged in piles of 4, 8, 12, 16. The next pile has**

A 12

B 24

C 16

D 20

Understand It with Pulse | Flag a mistake

7 **There are 400 silver coins. 60% of them are old. How many old silver coins are there?**

A 240

B 250

C 165

D 120

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8 **A passenger aeroplane travels 900 km in 3 hours. Its average speed is**

- A 400
- B 600
- C 300
- D 200

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9 **The sail of a sailing ship is a right-angled triangle with sides 9 m, 12 m and 15 m. A similar sail has a shortest side of 18 m. Its longest side is**

- A 24
- B 12
- C 30
- D 45

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10 **A slice of a cheese pizza is a sector of a circle with radius 10 cm and angle 120°. Its area, to one decimal place, is about**

- **A** 104.7 cm²
- **B** 52.4 cm²
- **C** 314.2 cm²
- **D** 209.4 cm²

Understand It with Pulse | Flag a mistake

11 **A ladder 13 m long leans against a wall. Its foot is 5 m from the wall. How high up the wall does it reach?**

- **A** 15
- **B** 12
- **C** 14
- **D** 5

Understand It with Pulse | Flag a mistake

12 A fair six-sided dice is rolled. The probability of a 4 is

- **A** $\frac{1}{4}$
- **B** $\frac{1}{6}$
- **C** $\frac{1}{2}$
- **D** $\frac{1}{3}$

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13 The mean of 2, 5, 8, 11, 14 is

- **A** 5
- **B** 8
- **C** 11
- **D** 9

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14 **Write $1/\sqrt{7}$ with a rational denominator**

- A $\sqrt{7}/7$
- B $\sqrt{7}$
- C $\frac{1}{7}$
- D $\sqrt{7}/2$

Understand It with Pulse | Flag a mistake

15 **A price of £60 increases by 5%. The new price is**

- A £68
- B £57
- C £58
- D £63

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16 Given $f(x) = 3x + 3$ and $g(x) = x^2$, the value of $(g \circ f)(2)$ is

- **A** 81
- **B** 9
- **C** 82
- **D** 39

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17 A wooden footbridge rises 3 m over a run of 9 m. Its gradient is

- **A** 3
- **B** $\frac{2}{3}$
- **C** $\frac{1}{4}$
- **D** $\frac{1}{3}$

Understand It with Pulse | Flag a mistake

18 **Solve 5(x + 6) = 50**

A x = 3

B x = 6

C x = 4

D x = 10

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19 **The next two terms of the sequence 7, 12, 17, 22 are**

A 32, 42

B 32, 37

C 27, 32

D 22, 27

Understand It with Pulse | Flag a mistake

20 **A wage of £240 per week increases by 15%. The new weekly wage is**

- **A** £245
- **B** £286
- **C** £255
- **D** £276

Understand It with Pulse | Flag a mistake

21 **y is inversely proportional to x^2 and y = 24 when x = 1. Find y when x = 3.**

- **A** 8
- **B** 2
- **C** 72
- **D** 26

Understand It with Pulse | Flag a mistake

22 **A shape with area 12 cm² is enlarged by scale factor 3. The area of the enlarged shape is**

- A 108 cm²
- B 15 cm²
- C 324 cm²
- D 36 cm²

Understand It with Pulse | Flag a mistake

23 **A circle has radius 8 cm. An arc with central angle 120° has length, to one decimal place, about**

- A 67 cm
- B 33.6 cm
- C 50.3 cm
- D 16.8 cm

Understand It with Pulse | Flag a mistake

24 **In a right-angled triangle, one angle is 45° and the side next to it is 5 cm. The side opposite the 45° angle is**

- **A** 4 cm
- **B** 6 cm
- **C** 5 cm
- **D** 10 cm

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25 **In a class of 30, 15 are girls and 15 are boys. 12 girls and 6 boys wear glasses. The probability that a student chosen at random is a girl who wears glasses is**

- **A** $\frac{4}{5}$
- **B** $\frac{1}{5}$
- **C** $\frac{3}{5}$
- **D** $\frac{2}{5}$

Understand It with Pulse | Flag a mistake

26 **A box plot has minimum 2, lower quartile 8, median 15, upper quartile 22, maximum 30. The interquartile range is**

- A 14
- B 28
- C 16
- D 7

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27 **Mia buys a bicycle for £146. She pays with £166. How much change does she get?**

- A £19
- B £20
- C £25
- D £21

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28 **A chocolate cake is cut into 10 equal slices. 7 slices are eaten. What fraction of the cake has been eaten?**

- **A** $\frac{4}{5}$
- **B** $\frac{7}{10}$
- **C** $\frac{3}{10}$
- **D** $\frac{7}{12}$

Understand It with Pulse | Flag a mistake

29 **A sandwich costs s pounds. The cost, in pounds, of 6 sandwiches and a £3 drink is**

- **A** 6s - 3
- **B** 7s + 3
- **C** 6(s + 3)
- **D** 6s + 3

Understand It with Pulse | Flag a mistake

30 **A sunflower grows 2 cm every week. The gradient of its height-time graph is**

- A 3
- B 1
- C 2
- D 4

Understand It with Pulse | Flag a mistake

31 **A bicycle costs x pounds. After a £25 discount it costs £150. The value of x is**

- A £185
- B £150
- C £175
- D £125

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32 **Hardcover books are arranged in piles of 6, 12, 18, 24. The next pile has**

A 24

B 18

C 36

D 30

Understand It with Pulse | Flag a mistake

33 **Red apples cost £15 for 4 kg. How much do 6 kg of red apples cost?**

A £25

B £90

C £22

D £15

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34 **Water flows into a swimming pool at 25 litres per minute. How long does it take to fill 750 litres?**

- A 60
- B 30
- C 20
- D 40

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35 **A Ferris wheel has 15 equally spaced gondolas. The angle between neighbouring gondolas is**

- A 19
- B 24
- C 29
- D 15

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36 **A swimming pool is 25 m long, 10 m wide and 2 m deep. Its volume is**

- A 500 m³
- B 600 m³
- C 250 m³
- D 520 m³

Understand It with Pulse | Flag a mistake

37 **A kite string is 14 m long and makes an angle of 30° with the ground. The height of the kite is**

- A 6
- B 8
- C 14
- D 7

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38 **In a class of 30, 18 are girls and 12 are boys. 10 girls and 5 boys wear glasses. The probability that a student chosen at random is a girl who wears glasses is**

- **A** $\frac{1}{2}$
- **B** $\frac{1}{3}$
- **C** $\frac{1}{6}$
- **D** $\frac{5}{9}$

Understand It with Pulse | Flag a mistake

39 **The numbers of pages in 5 hardcover books are 100, 150, 160, 220, 250. The range is**

- **A** 140
- **B** 150
- **C** 160
- **D** 250

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40 **Write $5^5/5^2$ as a single power of 5**

- **A** 5^3
- **B** 5^{10}
- **C** 5^7
- **D** 5^5

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41 **A chocolate cake is cut into 10 equal slices. 8 slices are eaten. What fraction of the cake has been eaten?**

- **A** $\frac{1}{5}$
- **B** $\frac{4}{5}$
- **C** $\frac{9}{10}$
- **D** $\frac{2}{3}$

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42 **Expand 5(x + 5)**

- A 5x + 25
- B 5x + 10
- C 5x + 5
- D 10x + 25

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43 **A ladder leans against a wall. It rises 5 m for every 2 m it goes across. The gradient of the ladder is**

- A 3
- B $\frac{5}{3}$
- C $\frac{5}{2}$
- D $\frac{2}{5}$

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44 **A guitar costs x pounds. Two guitars and a £10 case cost £110. The value of x is**

A £45

B £50

C £100

D £55

Understand It with Pulse | Flag a mistake

45 **Hardcover books are arranged in piles of 3, 6, 9, 12. The next pile has**

A 15

B 9

C 18

D 12

Understand It with Pulse | Flag a mistake

46 **Work out 85% of 200**

A 30

B 180

C 170

D 85

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47 **On a distance-time graph, a car travels 90 km in 4 hours at a steady speed. The speed of the car, in km/h, is**

A 44

B 360

C 86

D 22

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48 **Two parallel lines are cut by a transversal. One angle is 44°. Its corresponding angle is**

- A 64°
- B 136°
- C 44°
- D 90°

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49 **A cup of coffee fills a cylindrical cup with radius 5 cm and height 8 cm. The volume of the coffee is, to one decimal place, about**

- A 1256.6 cm^3
- B 125.7 cm^3
- C 628.3 cm^3
- D 78.5 cm^3

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50 **A ladder 15 m long leans against a wall. Its foot is 9 m from the wall. How high up the wall does it reach?**

A 17

B 12

C 14

D 9

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ANSWER KEY

1.	A	**18.**	C	**35.**	B
2.	D	**19.**	C	**36.**	A
3.	D	**20.**	D	**37.**	D
4.	A	**21.**	B	**38.**	B
5.	C	**22.**	A	**39.**	B
6.	D	**23.**	D	**40.**	A
7.	A	**24.**	C	**41.**	B
8.	C	**25.**	D	**42.**	A
9.	C	**26.**	A	**43.**	C
10.	A	**27.**	B	**44.**	B
11.	B	**28.**	B	**45.**	A
12.	B	**29.**	D	**46.**	C
13.	B	**30.**	C	**47.**	D
14.	A	**31.**	C	**48.**	C
15.	D	**32.**	D	**49.**	C
16.	A	**33.**	C	**50.**	B
17.	D	**34.**	B		

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