BRITISH COLUMBIA PRE-CALCULUS 11 (MPREC11) · UNIT B · 25 QUESTIONS

Quadratic Functions and Equations — 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 **The equation $2x^2 + 3x + 5 = 0$ has**



A two distinct real roots

B one real root

C no real roots

D two equal real roots

Understand It with Pulse | Flag a mistake

2 **The solutions of $x^2 - 7x + 12 = 0$ are**

- **A** 3 and 4
- **B** -3 and -4
- **C** 2 and 6
- **D** -2 and -6

Understand It with Pulse | Flag a mistake

3 **The axis of symmetry of $y = x^2 - 6x + 5$ is**

- **A** $x = -3$
- **B** $x = 3$
- **C** $x = 6$
- **D** $x = 5$

Understand It with Pulse | Flag a mistake

4 **The discriminant of $x^2 - 4x + 4 = 0$ is**

A 0

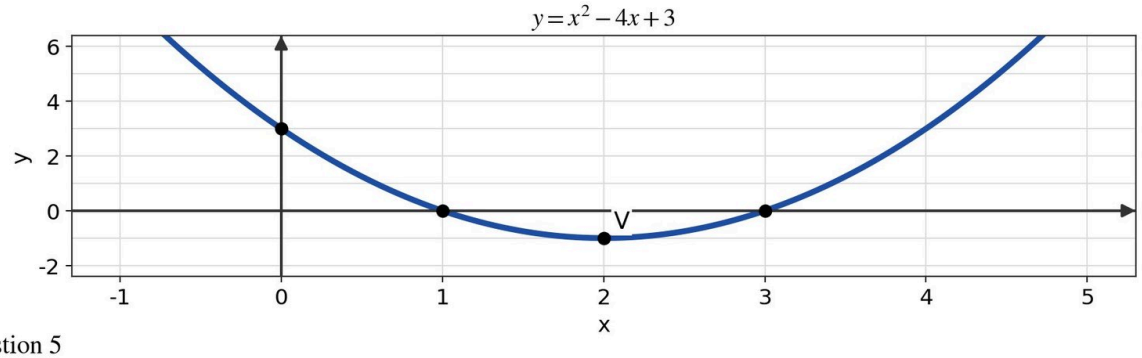
B 4

C -4

D 32

Understand It with Pulse | Flag a mistake

5 The graph shows y = x² - 4x + 3. The vertex is



Question 5

The graph shows $y = x^2 - 4x + 3$. The vertex is

A) $(2, -1)$

B) $(2, 1)$

C) $(-2, -1)$

D) $(0, 3)$

- **A** (2, -1)
- **B** (2, 1)
- **C** (-2, -1)
- **D** (0, 3)

Understand It with Pulse | Flag a mistake

6 **The solutions of $x^2 - 9 = 0$ are**

- **A** 3 only
- **B** -3 only
- **C** -3 and 3
- **D** 9 and -9

Understand It with Pulse | Flag a mistake

7 **The vertex of the parabola $y = 2(x - 3)^2 - 1$ is**

- **A** (3, -1)
- **B** (-3, -1)
- **C** (3, 1)
- **D** (-3, 1)

Understand It with Pulse | Flag a mistake

8 **A ball is thrown upward with height $h(t) = -5t^2 + 20t$. The maximum height, in metres, is**



A 10

B 20

C 40

D 15

Understand It with Pulse | Flag a mistake

9 **A ball with height $h(t) = -5t^2 + 20t$ hits the ground after how many seconds?**



- **A** 2
- **B** 3
- **C** 4
- **D** 5

Understand It with Pulse | Flag a mistake

10 **A rectangle has length 2 metres more than its width and area 48 m². The width, in metres, is ____.**



ANSWER _____

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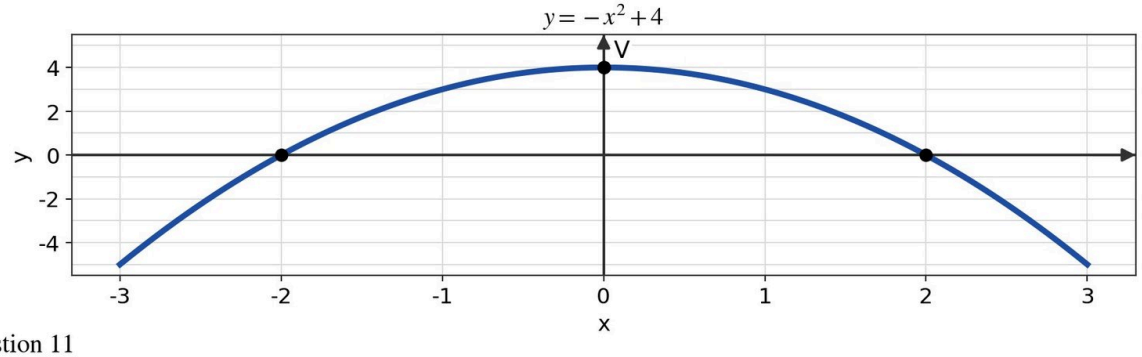
11

The graph shows y = -x² + 4. The vertex is



Question 11

The graph shows $y = -x^2 + 4$. The vertex is

A) $(0, -4)$

B) $(4, 0)$

C) $(0, 4)$

D) $(-4, 0)$

A (0, -4)

B (4, 0)

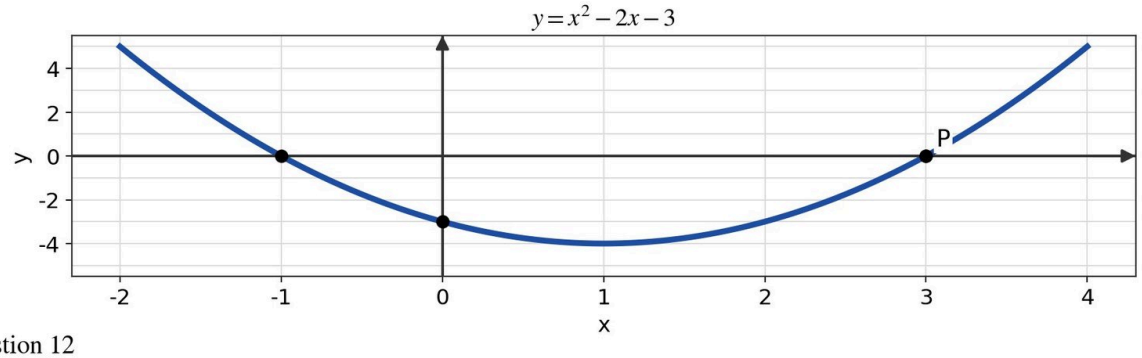
C (0, 4)

D (-4, 0)

Understand It with Pulse

Flag a mistake

12 The graph shows y = x² - 2x - 3. The larger x-intercept is



Question 12

The graph shows $y = x^2 - 2x - 3$. The larger x –intercept is

A) –1

B) 1

C) 3

D) –3

A -1

B 1

C 3

D -3

Understand It with Pulse

Flag a mistake

13 **The maximum value of $y = -x^2 + 6x - 2$ is**

- A 7
- B 5
- C -2
- D 3

Understand It with Pulse | Flag a mistake

14 **The parabola $y = -3x^2 + 2x + 1$ opens**

- A upward and has a minimum value
- B downward and has a maximum value
- C upward and has a maximum value
- D downward and has a minimum value

Understand It with Pulse | Flag a mistake

15 **The smaller root of $x^2 - 3x - 10 = 0$ is ____.**

ANSWER _____

Understand It with Pulse | Flag a mistake

16 **The vertex form $y = (x - 1)^2 + 2$ in standard form is**

A $y = x^2 - 2x + 3$

B $y = x^2 + 2x + 3$

C $y = x^2 - 2x - 1$

D $y = x^2 + 2x - 1$

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17 **The equation $x^2 + 5x + 2 = 0$ has**

A no real roots

B one real root

C two distinct real roots

D no roots at all

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18 **The solutions of $2x^2 - 8x = 0$ are**

A 0 and 4

B 0 and -4

C 2 and 8

D 4 only

Understand It with Pulse | Flag a mistake

19 The axis of symmetry of $y = 2x^2 + 8x + 1$ is

- A $x = 2$
- B $x = -2$
- C $x = 4$
- D $x = -4$

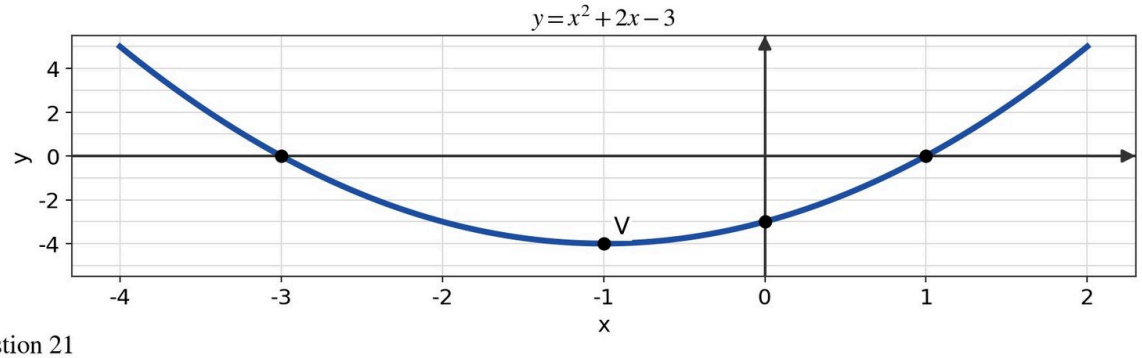
Understand It with Pulse | Flag a mistake

20 The discriminant of $x^2 - 6x + 9 = 0$ is

- A 0
- B 36
- C -36
- D 9

Understand It with Pulse | Flag a mistake

21 The graph shows y = x² + 2x - 3. The vertex is



Question 21

The graph shows $y = x^2 + 2x - 3$. The vertex is

A) $(-1, -4)$

B) $(1, -4)$

C) $(-1, 4)$

D) $(0, -3)$

A (-1, -4)

B (1, -4)

C (-1, 4)

D (0, -3)

Understand It with Pulse

Flag a mistake

22 **The solutions of $3x^2 - 27 = 0$ are**

A 3 only

B -3 and 3

C 9 and -9

D 27 and -27

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23 **The vertex of the parabola $y = -(x + 2)^2 + 5$ is**



A (2, 5)

B (-2, 5)

C (2, -5)

D (-2, -5)

Understand It with Pulse | Flag a mistake

24 **The equation $3x^2 - 2x + 1 = 0$ has**

A two distinct real roots

B one real root

C no real roots

D two equal real roots

Understand It with Pulse | Flag a mistake

25 **The solutions of $2x^2 + 3x - 2 = 0$ are**



A $\frac{1}{2}$ and -2

B -1/2 and 2

C 1 and -2

D 2 and -1

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ANSWER KEY

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

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