NORTHWEST TERRITORIES 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

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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

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

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

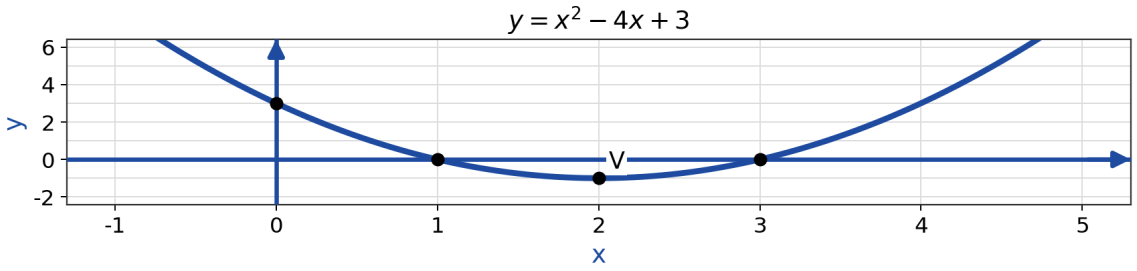
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4 **The discriminant of $x^2 - 4x + 4 = 0$ is**

- **A** 0
- **B** 4
- **C** -4
- **D** 32

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



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

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

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

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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)

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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

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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

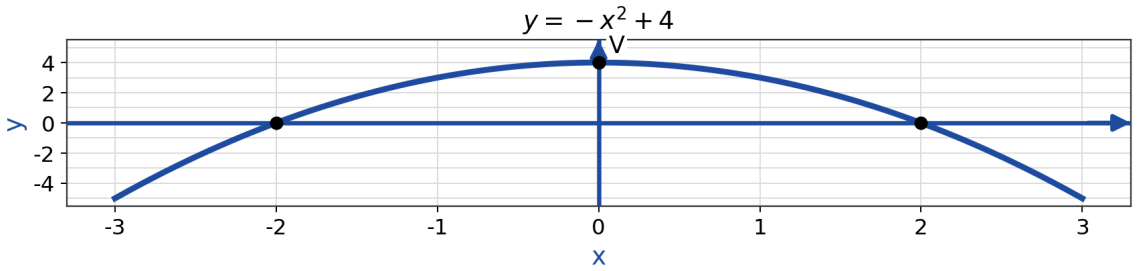
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10 **A rectangle has length 2 metres more than its width and area 48 m². The width, in metres, is ____.**

ANSWER _____

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



A (0, -4)

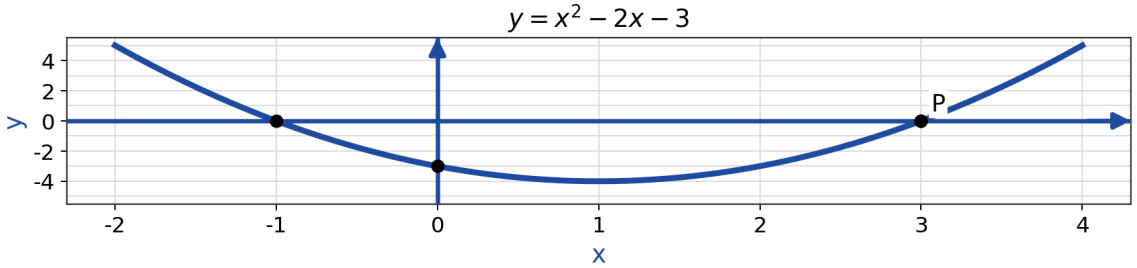
B (4, 0)

C (0, 4)

D (-4, 0)

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



A -1

B 1

C 3

D -3

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13 **The maximum value of y = -x² + 6x - 2 is**

A 7

B 5

C -2

D 3

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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

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

ANSWER _____

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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

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

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

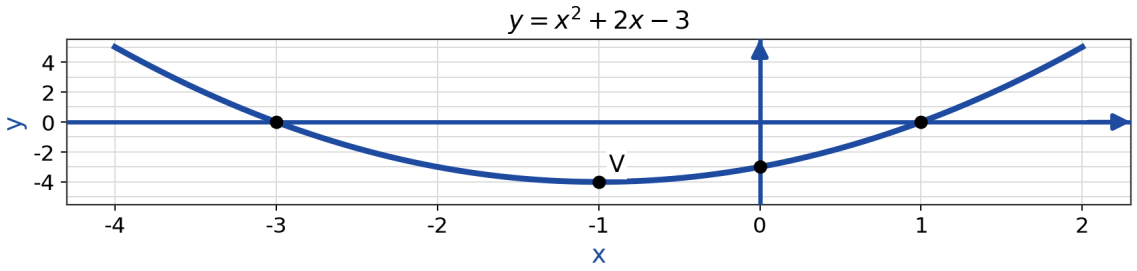
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20 The discriminant of $x^2 - 6x + 9 = 0$ is

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

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



- **A** (-1, -4)
- **B** (1, -4)
- **C** (-1, 4)
- **D** (0, -3)

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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)

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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

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

- A 1
- 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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