YUKON FOUNDATIONS OF MATHEMATICS 11 (MFOM-11) · UNIT B · 25 QUESTIONS

Graphical Analysis of Functions and Systems — 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 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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2 **The y -intercept of the parabola $y = 2x^2 - 3x + 5$ is ____.**

ANSWER _____

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3 The axis of symmetry of the parabola $y = x^2 + 6x + 2$ is

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

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4 The vertex of the parabola $y = -x^2 + 4x - 3$ is

- A (2, -1)
- B (-2, -1)
- C (2, 1)
- D (-2, 1)

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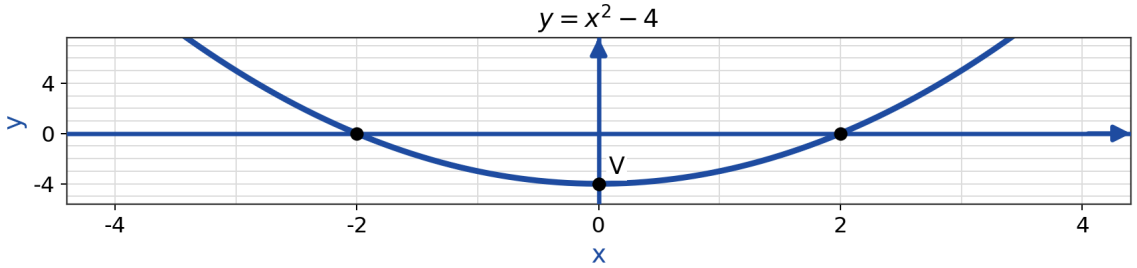
5 **The graph shows the parabola y = x² - 4. The value of y when x = 0 is**



A 0

B 4

C -2

D -4

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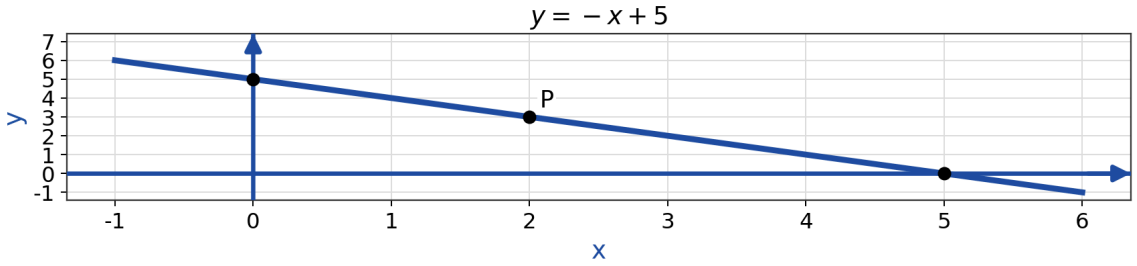
6 **The graph shows the line y = -x + 5. The value of y when x = 2 is**



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

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7 **The lines y = 2x + 1 and y = -x + 4 intersect at**

- **A** (3, 1)
- **B** (1, 3)
- **C** (2, 5)
- **D** (0, 4)

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8 **The solution of the system y = x + 2 and y = -2x + 5 is**

A (0, 2)

B (3, 5)

C (1, 3)

D (2, 4)

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9 **Two lines are parallel and distinct. The number of solutions of their system is**

A 1

B 2

C infinitely many

D 0

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10 **Two lines coincide. The number of solutions of their system is**

- **A** infinitely many
- **B** 0
- **C** 1
- **D** 2, because the two lines cross at exactly two points

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11 **For $y = x^2 - 2x - 3$, the x-intercepts are**

- **A** $x = -1$ only
- **B** $x = -1$ and $x = 3$
- **C** $x = 1$ and $x = -3$
- **D** $x = 3$ only

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12 For the parabola $y = x^2 - 4x + 3$, the values of x for which $y < 0$ are

- A $x > 3$
- B $x < 1$
- C $1 < x < 3$
- D $x < 1$ or $x > 3$

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13 For the line $y = 2x - 4$, the values of x for which $y \geq 0$ are

- A $x \leq 2$
- B $x \geq -2$
- C $x \leq -2$
- D $x \geq 2$

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14 **The domain of a function defined from x = -2 to x = 5, including both endpoints, is**

- **A** $-2 \leq x \leq 5$
- **B** $-2 < x < 5$
- **C** $-5 \leq x \leq 2$
- **D** $x \geq -2$

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15 **The range of the parabola $y = x^2 + 1$ is**

- **A** all real numbers
- **B** $y \geq 1$
- **C** $y \leq 1$
- **D** $y \geq 0$

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16 **The range of the parabola $y = -(x - 2)^2 + 4$ is**

A $y \leq 2$

B $y \geq 2$

C $y \leq 4$

D $y \geq 4$

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17 **The points (0, 0), (2, 3), and (4, 6) lie on a line through the origin. The slope of the line is**

A $\frac{2}{}$

B 3

C 2

D $\frac{3}{}$

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18 **The parabola $y = x^2 - 6x + 8$ has x-intercepts at**

A $x = 2$ and $x = 4$

B $x = -2$ and $x = -4$

C $x = 1$ and $x = 8$

D $x = 2$ only

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19 **If $f(x) = x^2 - 5$, then $f(3)$ is ____.**

ANSWER _____

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20 The maximum value of $y = -2x^2 + 8x - 5$ is

- A -5
- B 3
- C 5
- D 8

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21 The minimum value of $y = x^2 - 2x - 8$ is

- A 1
- B 8
- C -9
- D -8

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22 **For y = 3x - 6, the x-intercept is**

A (0, -6)

B (-2, 0)

C (6, 0)

D (2, 0)

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23 **The solution of the system y = 3x - 2 and y = x + 4 is**

A (3, 7)

B (2, 4)

C (1, 1)

D (4, 10)

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24 For $y = x^2 - 9$, the values of x for which $y \geq 0$ are

- A $x \leq 3$
- B $x \leq -3$ or $x \geq 3$
- C $-3 < x < 3$
- D $x \geq 3$

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25 A function rises from x = -1 to a peak at x = 2, then falls. The function is increasing on

- A $x < -1$
- B all real numbers
- C $-1 < x < 2$
- D $x > 2$

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ANSWER KEY

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

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