

Multiple Choice. Read each statement carefully and select the letter of the correct answer. Be sure that you have not missed any items before clicking the 'Submit' button.

1. What is the axis of symmetry?

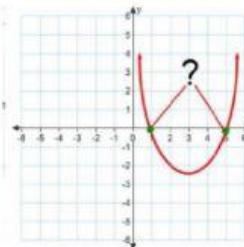
- A. the slope of the graph
- B. the dividing line for a parabola
- C. a way to spin my pencil
- D. the x-axis

2. What do you call a "U" shaped curve graph of a quadratic function?

- A. parable
- B. parabola
- C. Cartesian plane
- D. radical

3. What are the green dots called?

- A. axis of symmetry
- B. parabola
- C. vertex
- D. roots/ x-intercepts



4. Solve the inequality $4x^2 - 20x + 24 < 0$

- A. $x < -3$ or $x > -2$
- B. $2 < x < 3$
- C. $x < 2$ or $x > 3$
- D. $-3 < x < -2$

5. What is the discriminant of a quadratic equation $ax^2 + bx + c = 0$?

- A. $\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
- B. $\sqrt{b^2 - 4ac}$
- C. $b^2 - 4ac$
- D. $b^2 + 4ac$

6. Which of these equations has two real roots?

- A. $x^2 - 4x + 4 = 0$
- B. $x^2 - x + 5 = 0$
- C. $x^2 - 10x + 100 = 0$
- D. $x^2 - 4x + 3 = 0$

7. If a quadratic equation has no real roots, what would be the value of the discriminant?

- A. -3
- B. 0
- C. 1
- D. 3

8. Solve the quadratic equation by quadratic formula: $x^2 + x - 2 = 0$

- A. 4, -5
- B. 2, -4
- C. 2, -1
- D. 1, -2

9. Solve the quadratic equation by completing the square: $x^2 + 10x + 22 = 0$

- A. $5 \pm 2\sqrt{7}$
- B. $-5 \pm \sqrt{3}$
- C. $100 \pm \sqrt{3}$
- D. $-10 \pm 2\sqrt{7}$

10. How many solutions does the quadratic equation have?

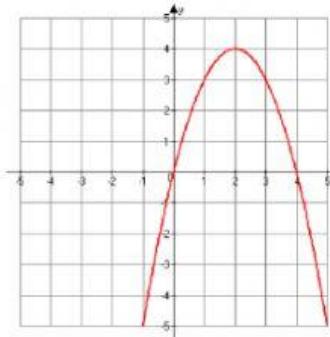
- A. 0
- B. 1
- C. 2
- D. 3

11. Which answer describes the function $y = -3x^2 + 7x - 2$ accurately?

- A. opens up with a minimum
- B. opens down with a maximum
- C. opens up with maximum
- D. opens down with a minimum

12. What are the x-intercepts?

- A. 0 and 2
- B. 2 and 3
- C. -4 and 0
- D. 0 and 4

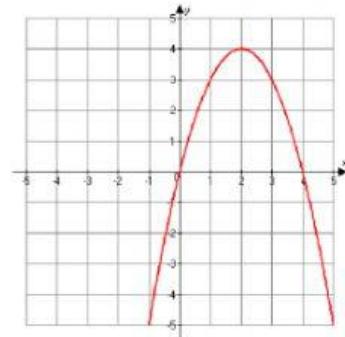


13. Identify the vertex and the y-intercept of the graph of the function $y = 2(x + 2)^2 - 2$.

- A. vertex: (2, 2);
y-intercept: 8
- B. vertex: (-2, -2);
y-intercept: 6
- C. vertex: (2, -2);
y-intercept: 6
- D. vertex: (-2, 2);
y-intercept: 2

14. Does this graph have a maximum or minimum value?

- A. maximum
- B. minimum
- C. neither
- D. both



15. What is the y-intercept of $y = 2x^2 + 4x + 6$?

- A. (6, 0)
- B. (0, -6)
- C. (-6, 0)
- D. (0, 6)