



1. Which of the following is a quadratic function?

☐ $f(x) = 3x - 4$

☐ $f(x) = 2x^3 - x^2 + 1$

☐ $f(x) = 7x^2 - x + 9$

☐ $f(x) = (x^2 - 3)^2 + 18$

2. Which of the following is a parabola that opens upward?

☐ $y = 3x^2 - 4$

☐ $y = 5x - x^2 - 1$

☐ $y = -7(x + 1)^2$

☐ $y = 18 - (x - 3)^2$

3. Which of the following parabolas crosses the y -axis at $(0, -5)$?

☐ $y = 3x^2 - 4$

☐ $y = 5x^2 - 3x - 1$

☐ $y = -7(x + 1)^2$

☐ $y = -3x^2 + x - 5$

4. What is the y -intercept of the parabola $y = -4(x - 1)^2 - 3x + 1$?

☐ $(0, 1)$

☐ $(0, -3)$

☐ $(0, 5)$

☐ $(0, -6)$

5. How many times does the parabola $y = x^2 + x - 3$ cross the x -axis?

☐ 0

☐ 1

☐ 2

☐ 3

6. What are the x -intercepts of the parabola $y = 2x^2 - x - 3$?

☐ $(-1, 0)$ or $(-3/2, 0)$

☐ $(1, 0)$ or $(3/2, 0)$

☐ $(1, 0)$ or $(-3/2, 0)$

☐ $(-1, 0)$ or $(3/2, 0)$

7. What is the vertex of the parabola $y = 3x^2 - 18x + 1$?

☐ $(6, 1)$

☐ $(3, -26)$

☐ $(-3, 82)$

☐ $(-6, 217)$

8. Which of the following parabolas has a minimum value?

☐ $y = -3x^2 + x - 5$

☐ $y = -5x^2 - 3x - 1$

☐ $y = -7(x + 1)^2$

☐ $y = 3x^2 - 4$



9. What is the maximum value of the parabola $y = -x^2 + 10x + 4$?

☐ 29

☐ -71

☐ 71

☐ -29

10. If $f(x) = 3x^2 - x + 2$, then $f(2) = ?$

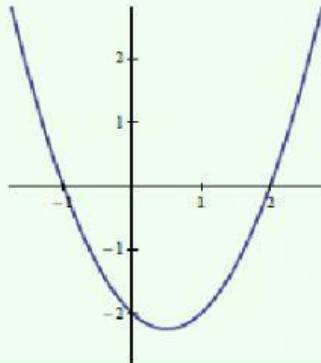
☐ -12

☐ 12

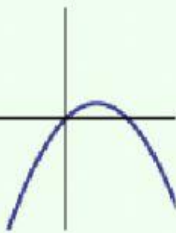
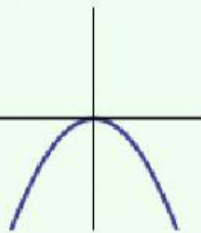
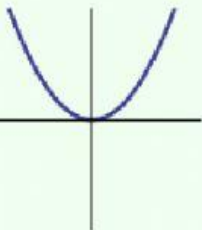
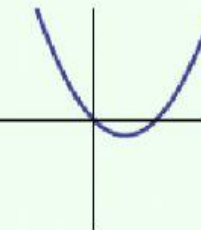
☐ 16

☐ -16

11. Which of the following represents the parabola graphed below?

☐ $y = (x + 2)(x + 1)$
☐ $y = (x - 2)(x - 1)$
☐ $y = (x + 2)(x - 1)$
☐ $y = (x - 2)(x + 1)$


12. Which of the following is a possible graph for $y = f(x) = 5x^2$?

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☐


13. What is the range of the function $f(x) = 3x^2 - x - 1$?

☐ $(-\infty, 1/6]$
☐ $[1/6, \infty)$
☐ $(-\infty, -13/12]$
☐ $[-13/12, \infty)$



14. Which of the following does not have x -intercept?

☐ $f(x) = 3(x - 1)^2 + 4$

☐ $f(x) = -3(x - 1)^2 + 4$

☐ $f(x) = 3(x - 1)^2 - 4$

☐ $f(x) = 4 - 3(x - 1)^2$

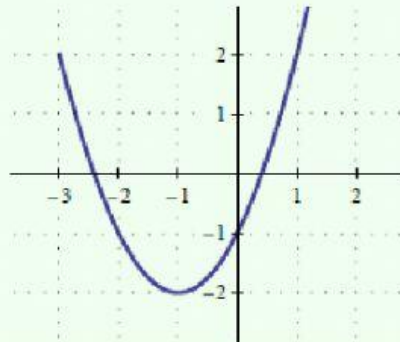
15. What is the vertex of the parabola graphed below?

☐ $(2, 1)$

☐ $(1, 2)$

☐ $(-2, -1)$

☐ $(-1, -2)$



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