

To earn your full participation point for the Do Now be sure to have completed all of the following by the time is up:

- 1) Be in your seat
- 2) Take out your calculator
- 3) Have last night's homework out
- 4) Complete the do now



Name: _____ Algebra 10 Unit 8 Test Review

Unit 8 Review – Quadratic Functions

DO NOW ~ Thursday 1/30

Write the following parabola in VERTEX FORM by completing the square and identify the vertex.

$$y = x^2 - 8x + 19$$

$$-\frac{8}{2} = (-4)^2$$

$$y = (x^2 - 8x + 16) + 19 - 16$$
$$y = (x - 4)^2 + 3$$

Vertex: $(4, 3)$



DO NOW ~ Friday 1/31

Solve the following equation by factoring and identify the zeroes.

$$x^2 - 9x + 14 = 0$$

Zeroes: _____



Mrs. Ferreri's Station ~ Poster Project and Review Graded Classworks

Use this space as a draft and space to do your work.

Computer Station ~ Mixed Practice

Change the following quadratic functions into vertex form by completing the square, then identify the vertex.

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

Vertex: _____

Identify the solutions (zeroes) by factoring.

1) $k^2 + 6k - 16 = 0$

2) $n^2 + 6n - 7 = 0$

Continue onto the next page.

Identify the solutions (zeroes) by factoring.

3) $r^2 + 2r - 15 = 0$

4) $x^2 - 8x + 16 = 0$

Change the following quadratic functions into vertex form by completing the square, then identify the vertex.

$$x^2 + 8x + 20$$

Vertex: _____

Identify the solutions (zeroes) by factoring.

5) $b^2 + 4b - 12 = 0$

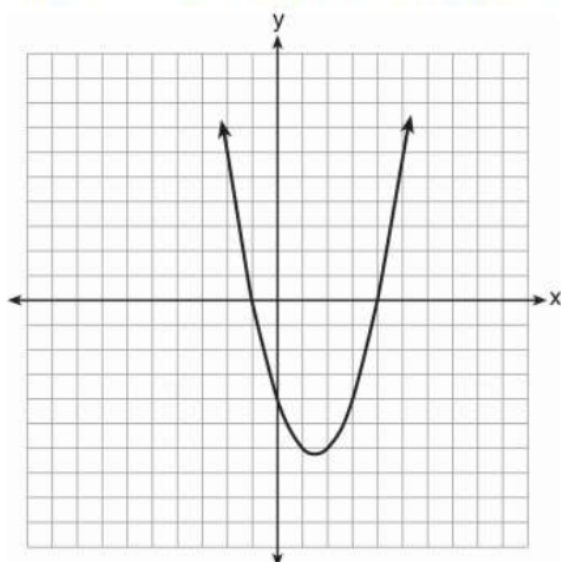
6) $b^2 - 10b + 21 = 0$

Mrs. Kennedy's Station ~ Multiple Choice Questions

Solve. Show work when you can.

1. An equation of the axis of symmetry of the graph of $y = x^2 + 6x + 9$ is $x = -3$. What is the y-coordinate of the turning point?

2. The roots of a quadratic equation can be found using the graph below.



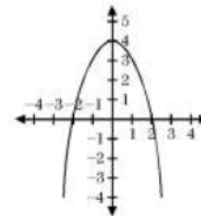
What are the roots of this equation?

- A. -4, only B. -4 and -1 C. -1 and 4 D. -4, -1, and 4
3. An equation of the axis of symmetry of the graph of the equation $y = x^2 - 6x + 2$ is
- A. $x = 3$ B. $x = -3$ C. $y = 3$ D. $y = -3$

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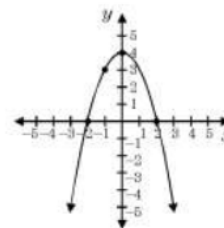
4. Which is an equation of the graph shown in the diagram?

A. $y = x^2 - 4$ B. $y = -x^2 + 4$ C. $x = y^2 - 4$ D. $x = -y^2 + 4$



5. Which is an equation of the parabola graphed in the accompanying diagram?

A. $y = x^2 + 4$ B. $y = x^2 - 4$ C. $y = -x^2 + 4$ D. $y = -x^2 - 4$

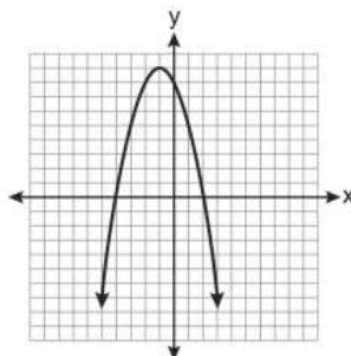


6. Which is an equation of the axis of symmetry of the graph whose equation is $y = x^2 + 8x - 10$?

A. $y = -4$ B. $y = 4$ C. $x = -4$ D. $x = 4$

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7. The equation $y = -x^2 - 2x + 8$ is graphed on the set of axes below.

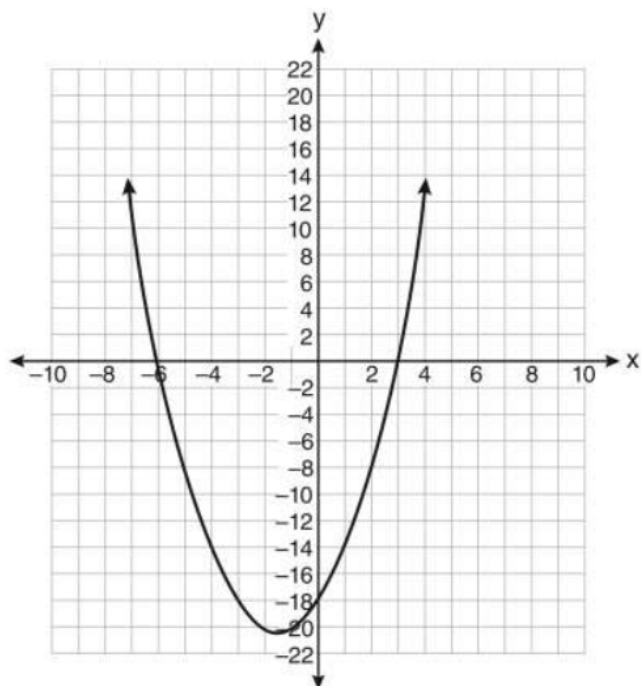


Based on this graph, what are the roots of the equation $-x^2 - 2x + 8 = 0$?

- A. 8 and 0 B. 2 and -4 C. 9 and -1 D. 4 and -2
8. What are the x -intercepts of $x^2 - 7x = 8$?
- A. $\{1, 8\}$ B. $\{-1, 8\}$ C. $\{1, -8\}$ D. $\{-1, -8\}$
9. What are the x -intercepts of $x^2 - 3x = 4$?
- A. $\{-1, 4\}$ B. $\{1, -4\}$ C. $\{-1, -4\}$ D. $\{1, 4\}$

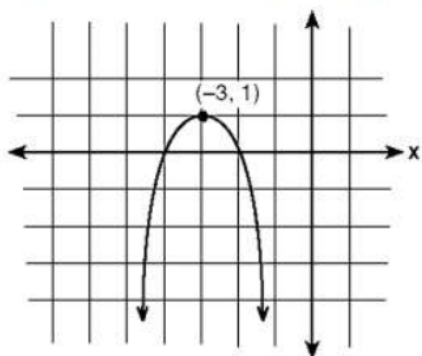
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10. The equation $y = x^2 + 3x - 18$ is graphed on the set of axes below.



Based on this graph, what are the roots of the equation $x^2 + 3x - 18 = 0$?

- A. -3 and 6 B. 0 and -18 C. 3 and -6 D. 3 and -18
11. Which equation represents the parabola shown in the accompanying graph?



- A. $f(x) = (x + 1)^2 - 3$ B. $f(x) = -(x - 3)^2 + 1$ C. $f(x) = -(x + 3)^2 + 1$ D. $f(x) = -(x - 3)^2 - 3$

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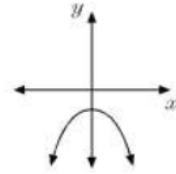
12. Which equation can represent the parabola in the diagram?

A. $y = -x^2$

B. $y = x^2$

C. $y = x^2 - 3$

D. $y = -x^2 - 3$



13. The graph of a parabola is represented by the equation $y = ax^2$ where a is a positive integer. If a is multiplied by 2, the new parabola will become

A. narrower and open downward

B. narrower and open upward

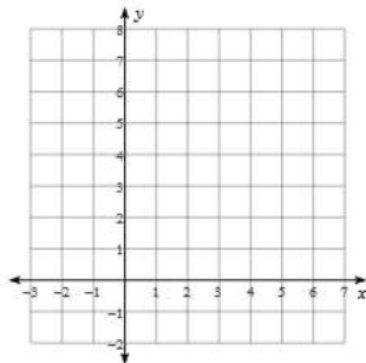
C. wider and open downward

D. wider and open upward

Independent Station ~ Graphing, Axis of Symmetry, Vertex and Range

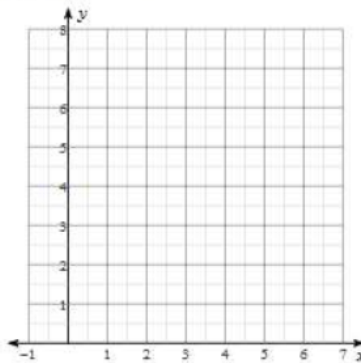
Graph using the table and label method, identify the axis of symmetry ($x =$), the vertex and the range.

1) $f(x) = 2x^2 - 8x + 7$



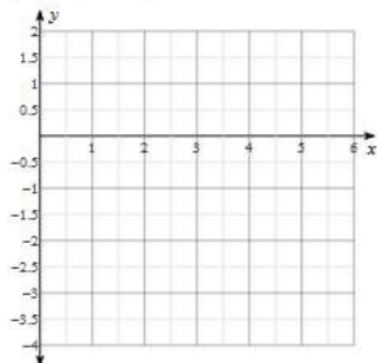
- a) Graph the Quadratic Function
- b) Identify the Range: _____
- c) Identify the turning point: _____
- d) Draw and state the axis of symmetry: _____

2) $f(x) = x^2 - 6x + 12$



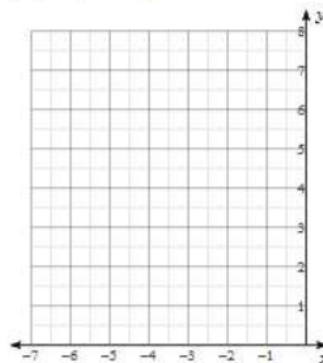
- a) Graph the Quadratic Function
- b) Identify the Range: _____
- c) Identify the turning point: _____
- d) Draw and state the axis of symmetry: _____

5) $y = (x - 2)^2 - 3$



- a) Graph the Quadratic Function
- b) Identify the Range: _____
- c) Identify the turning point: _____
- d) Draw and state the axis of symmetry: _____

6) $y = (x + 4)^2 + 3$



- a) Graph the Quadratic Function
- b) Identify the Range: _____
- c) Identify the turning point: _____
- d) Draw and state the axis of symmetry: _____