

NAME _____

DATE _____

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REVIEW: QUADRATIC FUNCTIONS**Answer the following.**

1. Answer the following for the quadratic function shown.

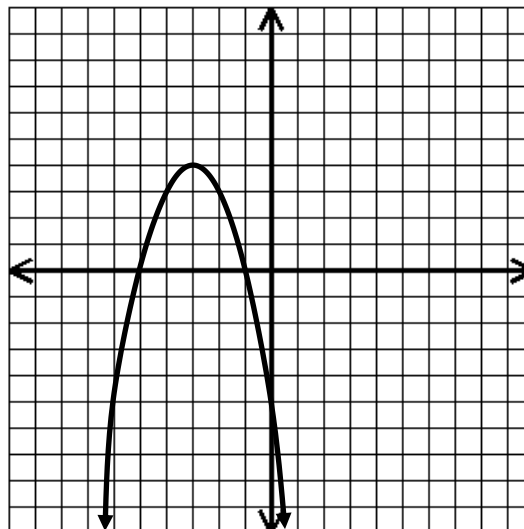
a) Vertex: _____ Circle: Max or Min

b) Axis of symmetry: _____

c) y-intercept: _____

d) x-intercepts: _____

e) Domain: _____ Range: _____

**Solve by factoring.**2. Find the solutions that satisfy: $8x^2 - 32 = 0$ 3. What are the roots of $y^2 = -y + 42$?**Solve using the quadratic formula. Round answers to the nearest tenth.**4. Find the solutions of $x^2 - 5x + 5 = 0$ **Use a calculator, as needed, to find each of the following. Round to the nearest tenth.**

5. Find the vertex of $f(x) = 2x^2 + 3x - 8$.	6. What are the solutions of $x^2 - 3x = 15$?
7. Find the zeros of $y = -3x^2 - x + 4$.	8. Find the maximum of $y = -4x^2 + 12x - 5$.
9. Find the roots of $f(x) = -4x + 8$.	10. What are the solutions that satisfy the equation $7x^2 - 28x = 0$?

Answer the following.

11. The graph of function $h(x)$ is shown below.

_____ Which of the following best represents the solution set of $h(x) = 0$?

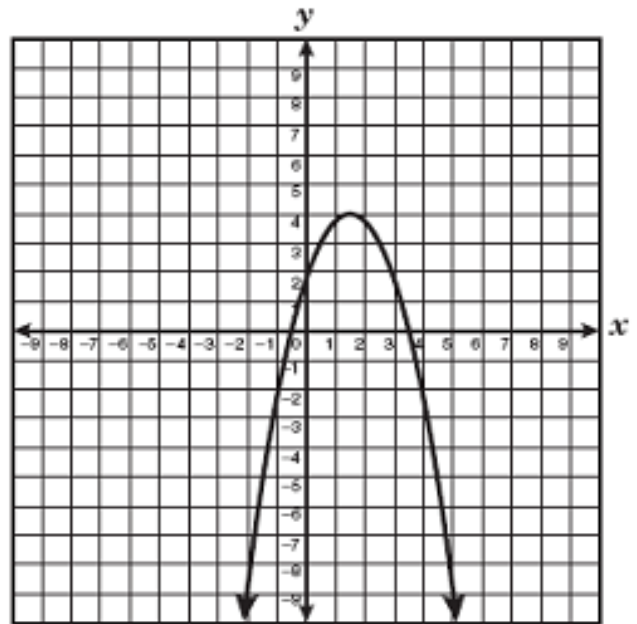
- | | |
|----------------|---------------|
| A. {1.5, 4} | C. {0.5, 4.5} |
| B. {-0.5, 3.5} | D. {0, 2} |

_____ Which of the following represents the equation for the line of symmetry?

- | | |
|------------|--------------|
| A. $y = 2$ | C. $y = 1.5$ |
| B. $x = 2$ | D. $x = 1.5$ |

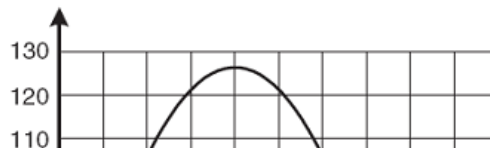
_____ Between which two integers is a zero of $h(x)$ located?

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



Domain: _____ Range: _____

The graph below show the height of a baseball from the time it is thrown from the top of a building until the time it hits the ground.



12. What conclusion can be made about the path of the baseball?

- A** The baseball reached its maximum height at 9 seconds.
- B** At 0 seconds, the baseball was 125 meters off the ground.
- C** The baseball was in flight for 4 seconds.
- D** The maximum height of the baseball was 125 meters.

13. At what time is the baseball at a height of 80 meters?

- A** 1 second
- B** 1 second and 7 seconds
- C** 1 second and 4 seconds
- D** 9 seconds

14. When did the baseball hit the ground?

- A** 125 seconds
- B** 9 seconds
- C** 4 seconds
- D** 45 seconds

15. Approximately how much time will elapse while the baseball is 70 meters or more above the ground?

- A** 0.5 seconds
- B** 4 seconds
- C** 6.5 seconds
- D** 9 seconds

16. Write the ordered pairs that represents the roots of the function $f(x) = 3x^2 + 3x - 6$.

17. Identify the solutions to the following quadratic equation: $5x^2 = 20$

18. The area of a rectangle is represented by the equation $w^2 + 4w = 60$, where w is the width of the rectangle. Find the width.

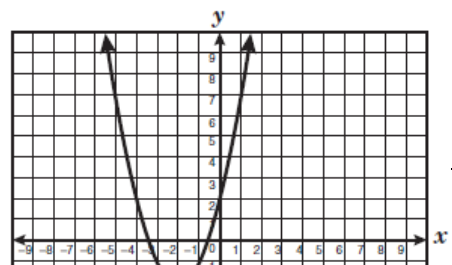
19. Which of the following represents the solution set of the equation $x^2 + 5x - 24 = 0$?

- A {3, -8}
- B {-3, 8}
- C {6, -4}
- D {-6, 4}

20. Which of the following represents the solutions of the equation $x^2 - 3x + 1 = 0$?

- A $x = \frac{-3 \pm \sqrt{13}}{2}$
- B $x = \frac{-3 \pm \sqrt{5}}{2}$
- C $x = \frac{3 \pm \sqrt{13}}{2}$
- D $x = \frac{3 \pm \sqrt{5}}{2}$

21. The grid shows the intercepts of the graph of a quadratic function. Which of the following best represents the zeros of this function?



A $\{0, 2\}$

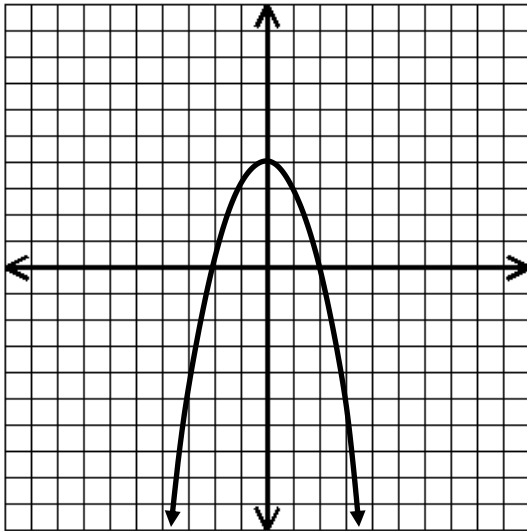
B $\{-2, -2.25\}$

C $\{\frac{-7}{2}, \frac{-1}{2}\}$

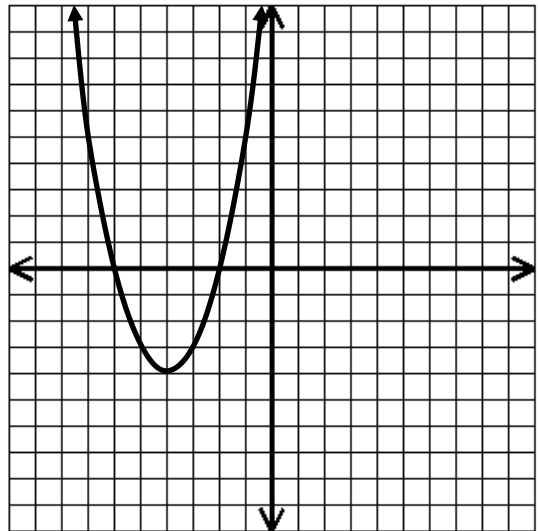
D $\{-4, 2\}$

22. Which graph best represents a quadratic function that has roots at 2 and 6 and a range of all real numbers less than or equal to 4?

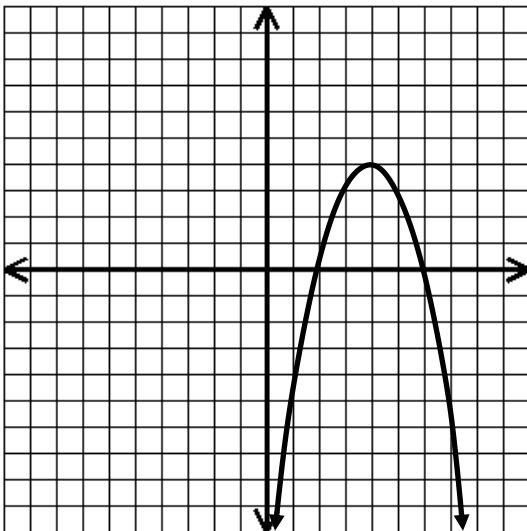
A.



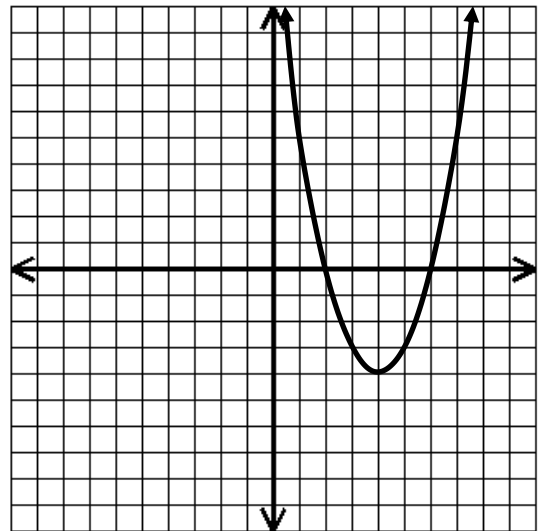
B.



C.



D.



Factor completely.

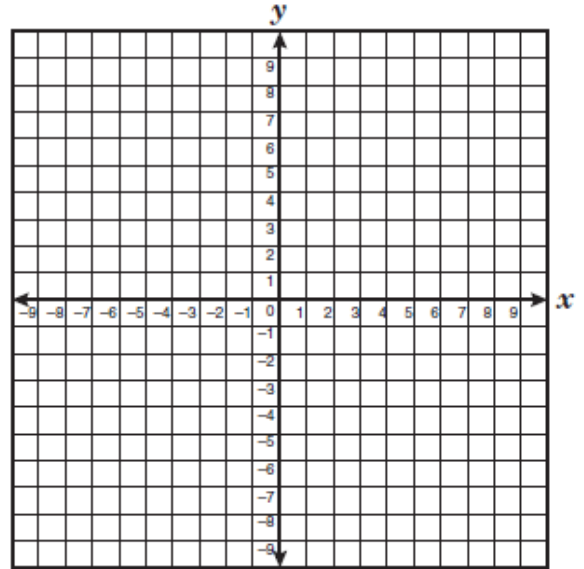
23. $x^2 - 4x - 32 =$ _____

24. $3x^3 + 24x^2 + 21x =$ _____

Answer the following. Show all work.

25. How does the graph of $y = 2x - 5$ compare to the graph of $y = 3x - 5$?

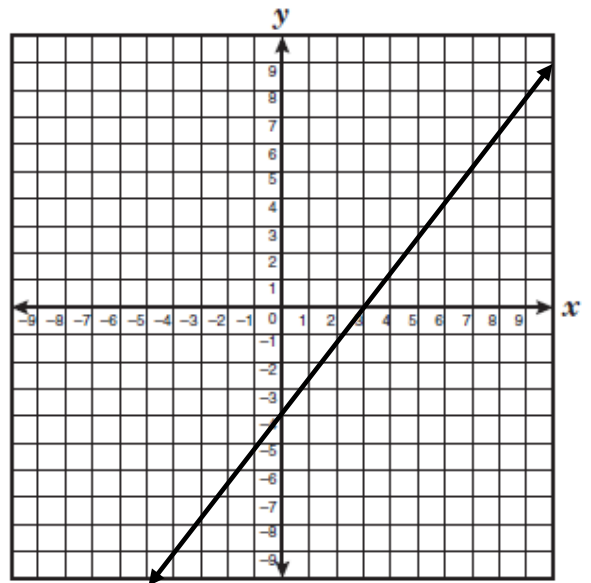
- A. The slope of $y = 2x - 5$ is less steep.
- B. The slope of $y = 2x - 5$ is steeper.
- C. The graph of $y = 2x - 5$ has a greater y-intercept.
- D. The graph of $y = 2x - 5$ has a smaller y-intercept.



26. The graph of a line is shown below.

If the slope of this line is multiplied by -2 and the y-intercept increases by 1, what is the equation of the new line?

Equation: _____



27. Write the equation that describes the line that passes through the point $(-6, 2)$ and is parallel to the line represented by the equation $y = 2x - 4$.

28. There are 12 people on a jury. There are 4 more men than women. How many men are on the jury?

Equations: _____

Answers in random order:

A	B	0 and 4	(0, -5)	3.6 and 1.4	(-5, 0) & (1, 0)
A	B	-2 and 2	(-0.8, -9.1)	$y \leq 4$	-2.7 and 5.7
A	C	6	(1.5, 4)	All real numbers	$x = -3$
D	C	(-3, 4)	$y = \frac{-8}{3}x - 3$	All real numbers	6 and -7
D	C	2	$(x + 4)(x - 8)$	$y = 2x + 14$	-2 and 2
D	8	$y \leq 4$	-1.3 and 1	(1, 0) & (-2, 0)	$3x(x + 1)(x + 7)$