Heritage High School – Distance Learning
Mr. Leong's Algebra 1 Assignment Packet
April 28 – May 1

Due Date: Monday, May 4 by 9:00am
Late work will not be accepted

Practice Quiz: <u>Students with internet access</u> should go to https://joinmyquiz.com/ and use code 583347. Please read the directions on the next page on accessing Quizzizz. You will have unlimited attempts on the practice quiz.

<u>Students with limited internet access</u> can print and complete the practice quiz (attached). Email me a scan/photograph of your work or submit paper copies to the main office on Monday from 12-3pm.

Quiz: <u>Students with internet access</u> should go to https://joinmyquiz.com/ and use code 439589. Please read the directions on the next page on accessing Quizzizz. You will only have 1 attempt on this quiz so you will be prompted to create an account before you take it.

<u>Students with limited internet access</u> can print and complete the quiz (attached). Email me a scan/photograph of your work or submit paper copies to the main office on Monday from 12-3pm.

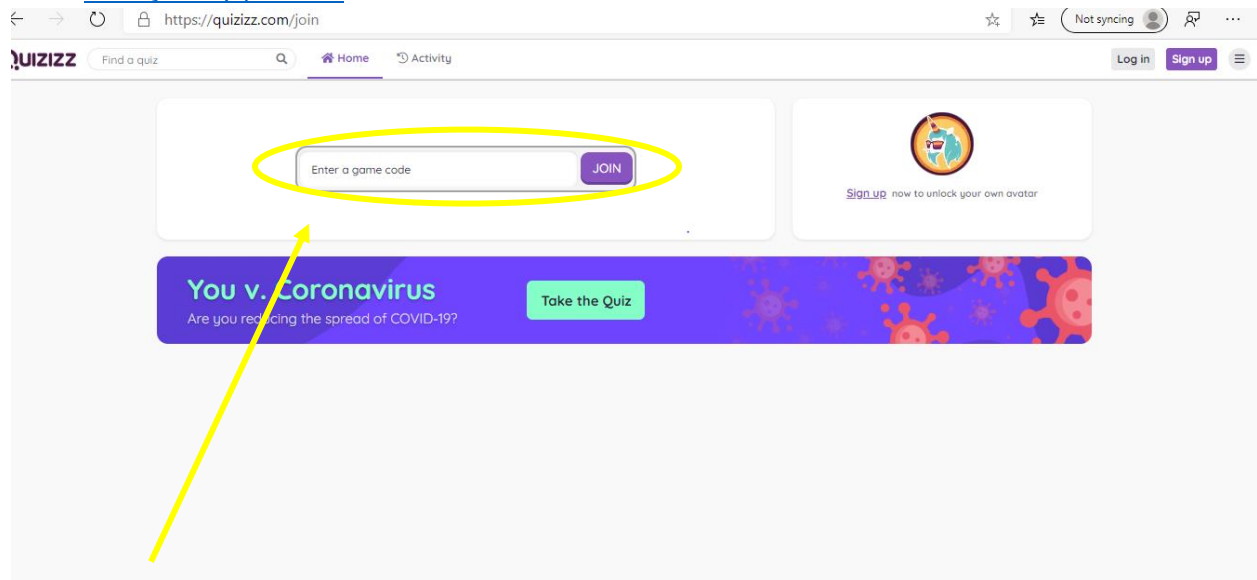**Videos:** <u>Students with internet access</u>, please view the videos below.

Walkthrough of the practice quiz:
https://youtu.be/liH7vVGWW-I

<u>Students with limited internet access</u> can use the teacher's notes at the end of this packet.
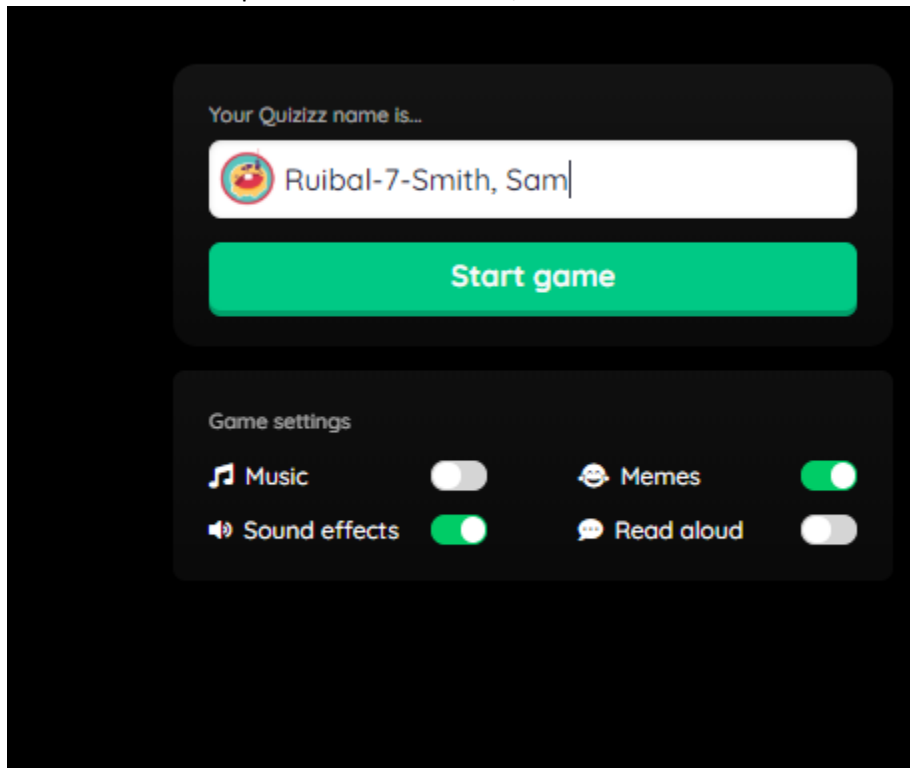
Contact: leongc@luhsd.net
925.634.0037 ext. 6305
Remind @fnctn
Zoom office hours (TBA)

Accessing "Quizizz"

1) Go to www.joinmyquiz.com

2) Enter the game code provided by your teacher
3) Click "Join"
4) You must use the following convention for your name to receive credit:
   Teacher last name- period- Your last name, first name

5) Click "Start Game"

QUIZIZZ

Algebra 1 Unit 8 Practice Quiz

18 Questions

NAME : _____

CLASS : _____

DATE : _____

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1. What is the vertex in a quadratic equation?

☐ a) The line that divides the graph into two symmetrical parts

☐ b) All real numbers

☐ c) The highest or lowest point of the parabola

☐ d) y=mx+b

2. What is the vertical line that divides the parabola into two symmetrical parts?

☐ a) parabola

☐ b) vertex

☐ c) axis of symmetry

☐ d) all real numbers

3. What is the axis of symmetry?

$y = 3x^2 - 6x + 4$

☐ a) x=1

☐ b) x=-6

☐ c) x=2

☐ d) x=-1

4. What is the vertex?

$f(x) = -x^2 - 4x + 12.$

☐ a) (-2, 16)

☐ b) (2, 0)

☐ c) (2, 4)

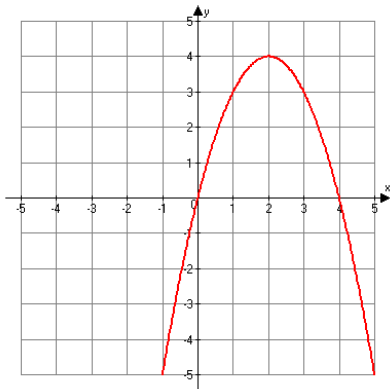☐ d) (-2, 4)

5.
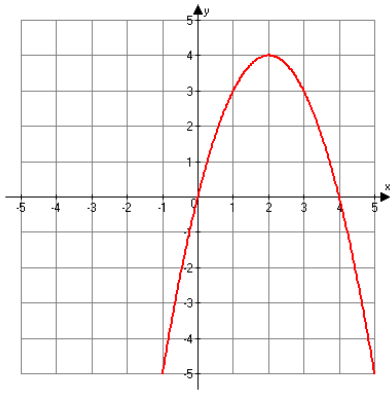
What is the vertex?

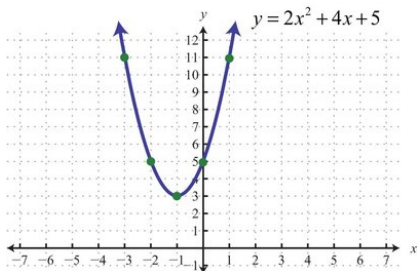☐ a) (0,0)   ☐ b) (2,4)

☐ c) (4,2)   ☐ d) (4,0)

6.

What are the x-intercepts?

☐ a) x=0 and x=2   ☐ b) x=-4 and x=0

☐ c) x=2 and x=3   ☐ d) x=0 and x=4

7.

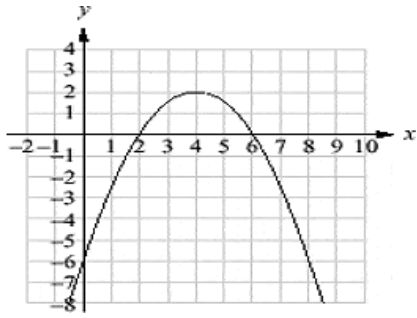$y = 2x^2 + 4x + 5$

What is the y-intercept of this parabola?

☐ a) (−1, 3)   ☐ b) (−3, 11)

☐ c) (−2, 5)   ☐ d) (0, 5)
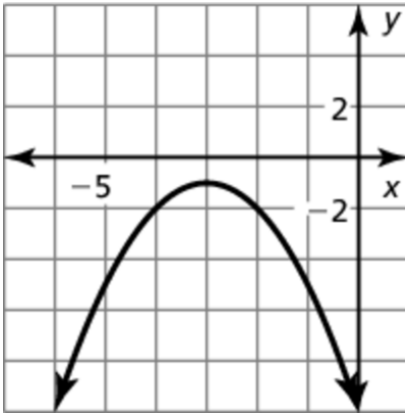
8.

What is the domain of the graph shown above.

☐ a) x=19

☐ b) all real numbers

☐ c) y=3

☐ d) Maximum

9.

The range of the graph is _____

☐ a) $y \geq -1$

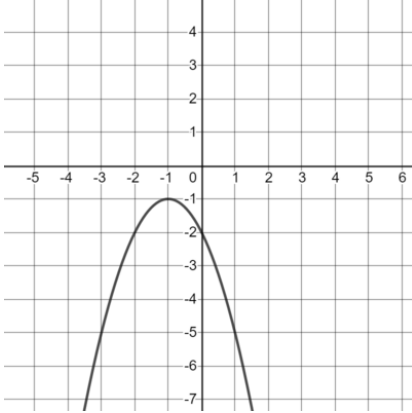☐ b) $y \leq -1$
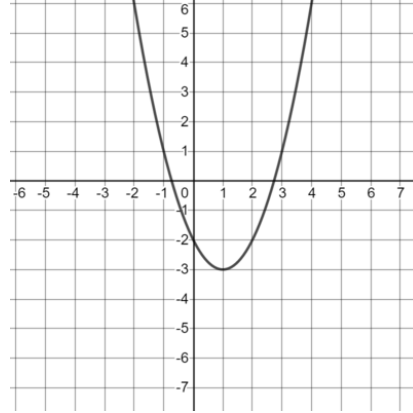
☐ c) $y < -1$

☐ d) $y > -1$

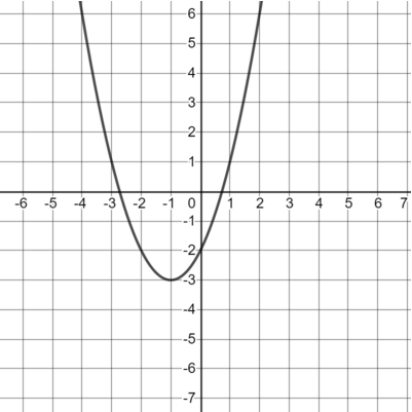10.   Match the correct graph with the equation

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

☐ a)

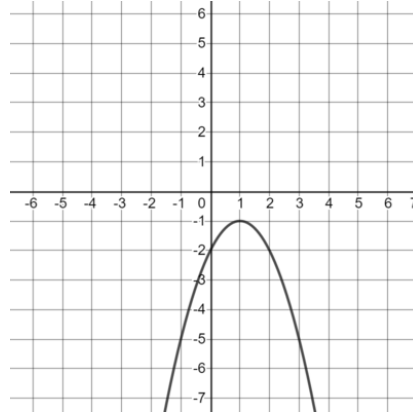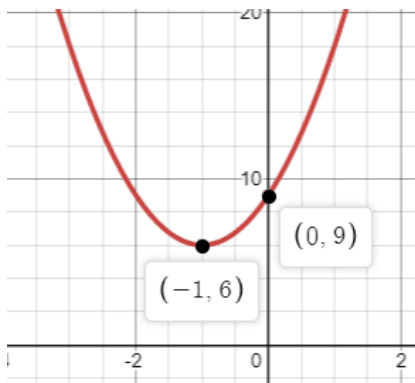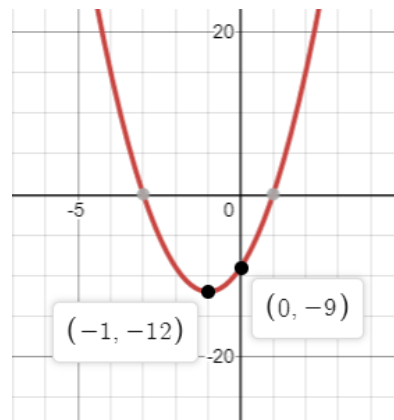☐ b)

☐ c)

☐ d)

11. Select the graph of the function $y = -3x^2 + 6x + 9$

☐ a)

(0, 9)

(−1, 6)

☐ b)

(−1, −12)

(0, −9)

☐ c)

(1, 12)

(0, 9)

☐ d)

(0, −9)

(1, −6)

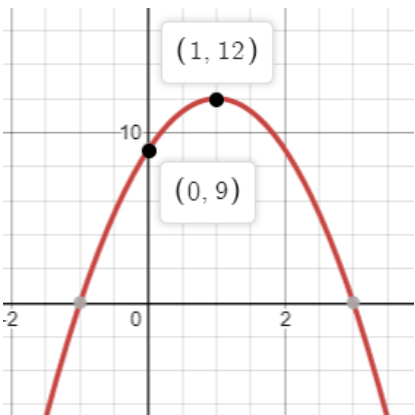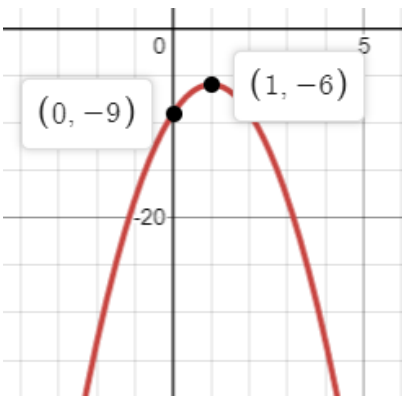12. If given the equation y = 3(x + 5)² - 4, what is the vertex of
     the parabola?

☐ a) (5, -4)   ☐ b) (-5, -4)

☐ c) (-15, -4)   ☐ d) (15, -4)

13. What is the vertex of: y= (x-3)² + 6

☐ a) (-3,6)   ☐ b) (-3,-6)

☐ c) (3,6)   ☐ d) (3,-6)

14. Compare y = x² - 7 to the parent function y = x²

☐ a) moves 7 units right   ☐ b) moves 7 units left

☐ c) moves 7 units up   ☐ d) moves 7 units down

15. Compare $y = (x + 10)^2$ to the parent function $y = x^2$

☐ a) moves 10 units right ☐ b) moves 10 units left

☐ c) moves 10 units up ☐ d) moves 10 units down

16. Compare $y = 5(x + 6)^2 - 4$ to the parent function $y = x^2$

☐ a) vertical stretch, moves 6 units left and 4 units up ☐ b) vertical stretch, moves 6 units left and 4 units down

☐ c) vertical shrink, moves 6 units right and 4 units up ☐ d) vertical shrink, moves 6 units right and 4 units down

17.
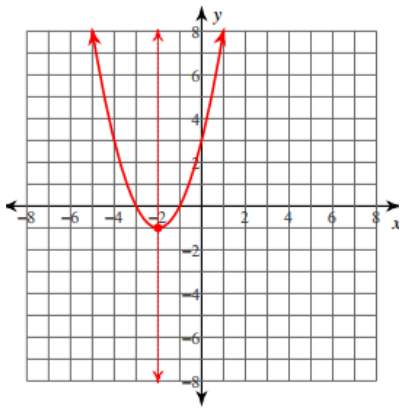
Which quadratic function is represented by the graph?

☐ a) $f(x) = (x - 2)^2 - 1$ ☐ b) $f(x) = (x + 2)^2 - 1$

☐ c) $f(x) = -(x + 2)^2 - 1$ ☐ d) $f(x) = -(x - 2)^2 - 1$

18. Which function has a translation of 3 units left and reflects over the x-axis?

☐ a) $f(x) = (x + 3)^2 - 8$ ☐ b) $f(x) = -(x + 8)^2 - 3$

☐ c) $f(x) = (x + 8)^2 - 3$ ☐ d) $f(x) = -(x + 3)^2 + 8$

Answer Key

1.	c	6.	d	11.	c	16.	b
2.	c	7.	d	12.	b	17.	b
3.	a	8.	b	13.	c	18.	d
4.	a	9.	b	14.	d		
5.	b	10.	a	15.	b		

QUIZIZZ

NAME : _____

CLASS : _____

Algebra 1 - Unit 8 Quiz

DATE : _____

18 Questions

1.   What do we call the highest or lowest point of a quadratic?

☐ a) parabola   ☐ b) vertex

☐ c) graph   ☐ d) point

2.   What is a axis of symmetry?

☐ a) all real numbers   ☐ b) y=5

☐ c) the line that divides the graph into two   ☐ d) y=mx+b
        symmetrical parts

3.   What is the axis of symmetry?

      $f(x) = x^2 - 8x + 15.$

☐ a) x = -4   ☐ b) x = 4

☐ c) y = 4   ☐ d) y = -4

4.   What is the vertex?

      $y = -2x^2 + 4x + 3$

☐ a) (0, 3)   ☐ b) (-1, 5)
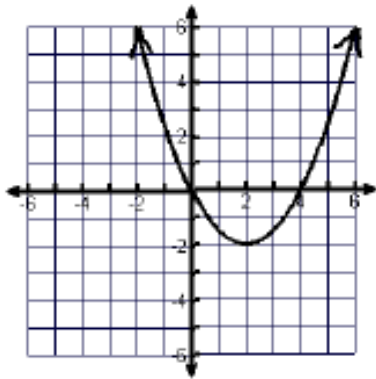
☐ c) (1, 5)   ☐ d) (1, -5)
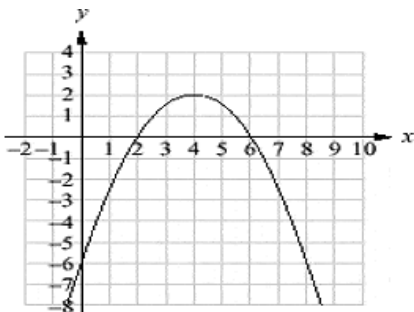
5.
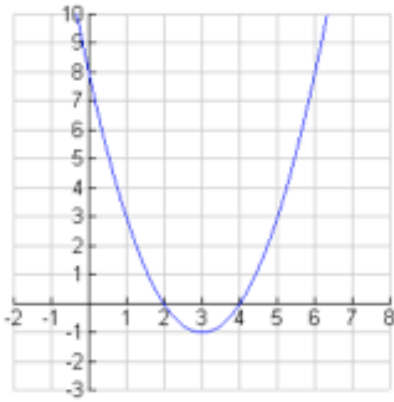
What is the vertex?

☐ a) (2, 4)   ☐ b) (3, -1)

☐ c) (0, 8)   ☐ d) (4, 2)

6.

What are the x- intercepts?

☐ a) x= 0 and x= -4   ☐ b) x= 0 and x= 4

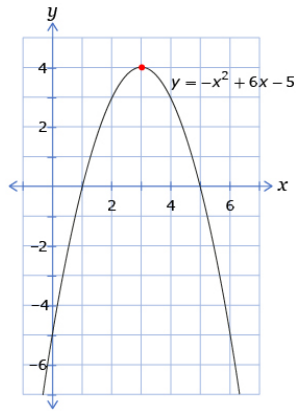☐ c) y= 0   ☐ d) x= 2

7.

What is the y-intercept of the graph shown above?

☐ a) all real numbers   ☐ b) (0,6)
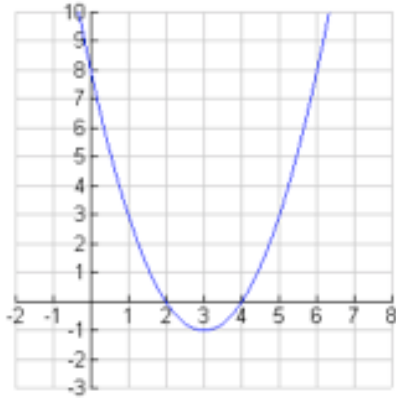
☐ c) (0,2)   ☐ d) (0,-6)

8.

What is the domain of the graph?

☐ a) x≤4

☐ b) x>4

☐ c) x>0

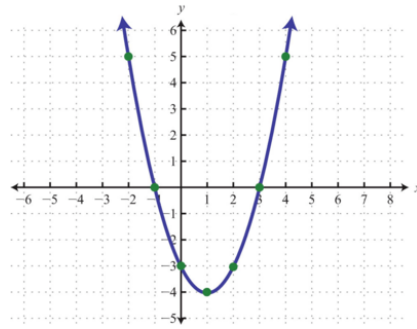☐ d) all real numbers

9.

What is the range of the graph?

☐ a) all real numbers

☐ b) y≤-1

☐ c) y≥-1

☐ d) y≥3

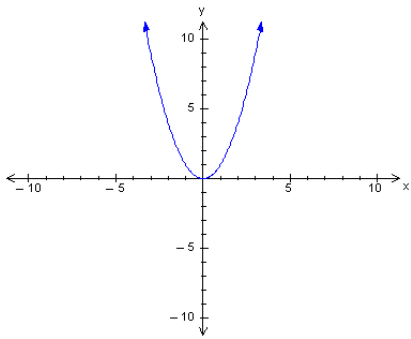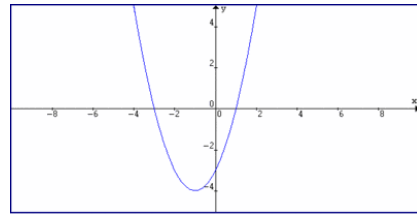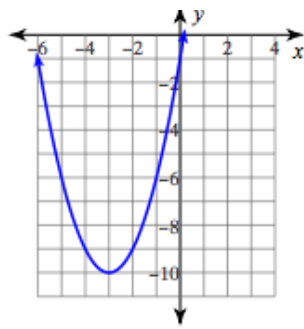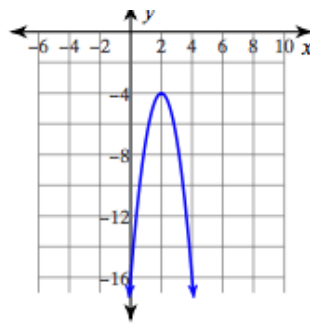10.   Graph the following equation: $y = x^2 - 2x - 3$

☐ a)
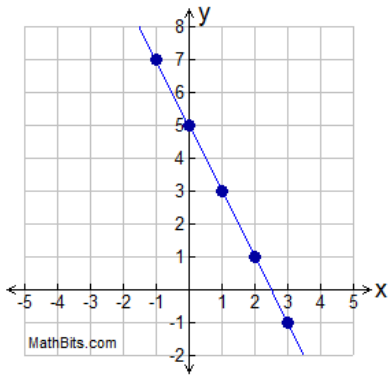
☐ b)
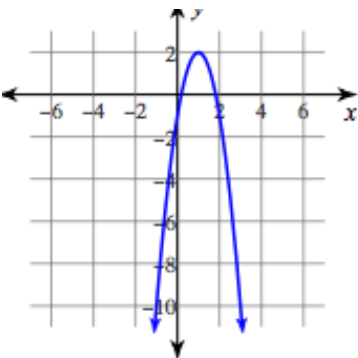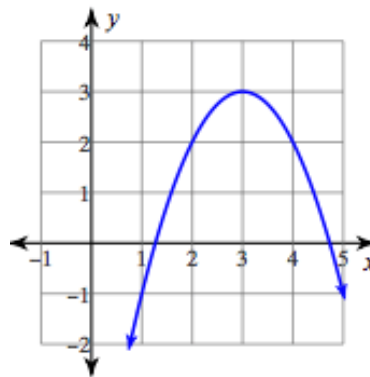

☐ c)

☐ d)

11.   What is the graph of $y = -3x^2 + 12x - 16$

☐ a)

☐ b)

☐ c)

☐ d)

12. What is the vertex?

    $f(x) = 2(x - 5)^2 + 12$

☐ a) (-5, -12)   ☐ b) (5,-12)

☐ c) (5, 12)   ☐ d) (-5, 12)

13. What is the vertex of: $y = (x + 4)^2 - 5$

☐ a) (4,-5)   ☐ b) (-4,-5)

☐ c) (-4,5)   ☐ d) (4,5)

14. Compare $y = x^2 + 5$ to the parent function $y = x^2$

☐ a) moves 5 units right   ☐ b) moves 5 units left

☐ c) moves 5 units up   ☐ d) moves 5 units down

15. Compare $y = (x-8)^2$ to the parent function $y = x^2$

☐ a) moves 8 units right   ☐ b) moves 8 units left

☐ c) moves 8 units up   ☐ d) moves 8 units down

16. Compare $y = 2(x - 3)^2 + 5$ to the parent function $y = x^2$

☐ a) vertical stretch, moves 3 units left and 5 units up   ☐ b) vertical shrink, moves 3 units left and 5 units up

☐ c) vertical shrink, moves 3 units right and 5 units up   ☐ d) vertical stretch, moves 3 units right and 5 units up

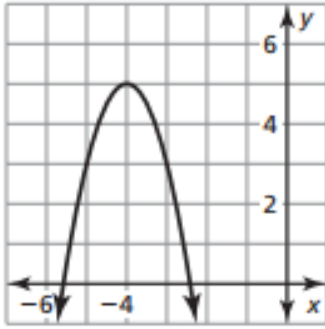17. Which function has a translation of 7 units down and reflects over the x-axis?

☐ a) $f(x) = -(x - 7)^2 + 1$ ☐ b) $f(x) = (x + 7)^2 + 1$

☐ c) $f(x) = -(x - 1)^2 - 7$ ☐ d) $f(x) = (x + 1)^2 - 7$

18.

Which quadratic function is represented by the graph?

☐ a) $y = 2(x - 4)^2 + 5$

☐ b) $y = 2(x + 4)^2 + 5$

☐ c) $y = -2(x - 4)^2 + 5$

☐ d) $y = -2(x + 4)^2 + 5$

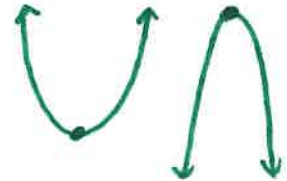**QUIZIZZ**

Algebra 1 Unit 8 Practice Quiz

18 Questions

NAME : _____

CLASS : _____

DATE : _____

1. What is the vertex in a quadratic equation? (p.420)

☐ a) The line that divides the graph into two symmetrical parts   ☐ b) All real numbers

☑ c) The highest or lowest point of the parabola ☐ d) y=mx+b

2. What is the vertical line that divides the parabola into two (p.420) symmetrical parts?

☐ a) parabola   ☐ b) vertex

☑ c) axis of symmetry   ☐ d) all real numbers

$$x = \frac{-b}{2a}$$

3. What is the axis of symmetry?

$$y = 3x^2 - 6x + 4$$
$$\quad\quad \underset{a}{\overline{}} \quad \underset{b}{\overline{}} \quad \underset{c}{\overline{}}$$

☑ a) x=1   ☐ b) x=-6

☐ c) x=2   ☐ d) x=-1
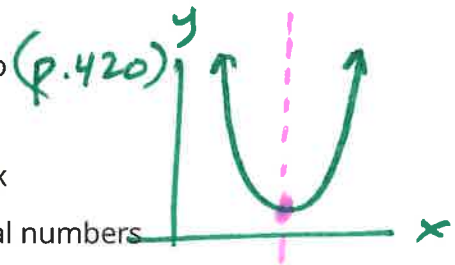
$$x = \frac{-(-6)}{2(3)} = \frac{6}{6} = 1$$

4. What is the vertex?

$$f(x) = -x^2 - 4x + 12. \quad\leftarrow \boxed{y = -x^2 - 4x + 12}$$

☑ a) (-2, 16)   ☐ b) (2, 0)

☐ c) (2, 4)   ☐ d) (-2, 4)
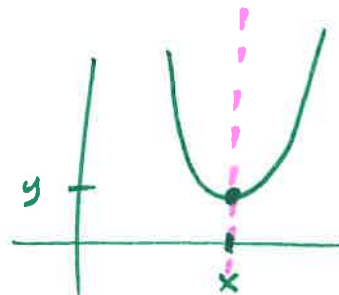
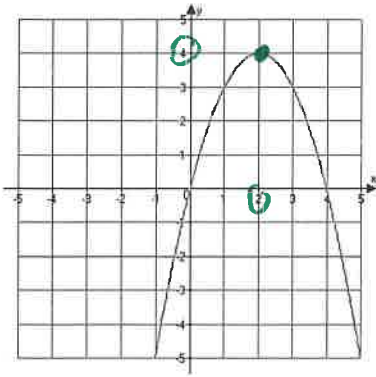$$\underset{a}{\frac{-1x^2}{}} \, \underset{b}{\frac{-4x}{}} \, \underset{c}{\frac{+12}{}} \quad\quad x = \frac{-b}{2a} = \frac{-(-4)}{2(-1)} = \frac{4}{-2} = -2$$

$$y = -(-2)^2 - 4(-2) + 12$$
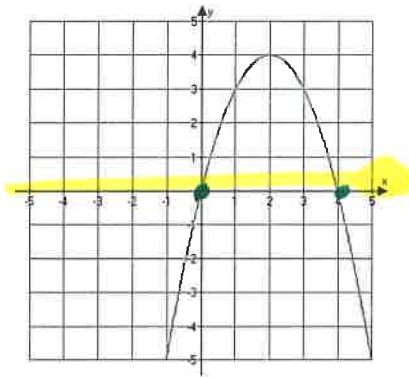$$= -(4) + 8 + 12$$
$$= 16$$

5.

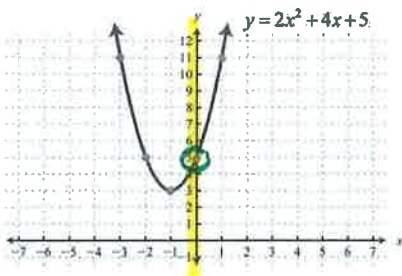What is the vertex?

☐ a) (0,0)　　　　　　　　　　☐ b) (2,4)

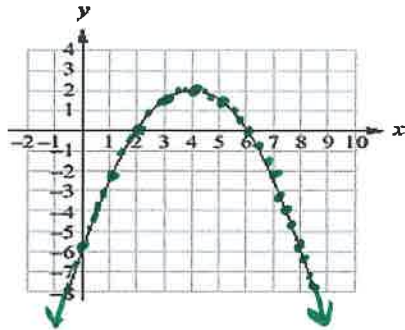☐ c) (4,2)　　　　　　　　　　☐ d) (4,0)

6.

What are the x-intercepts?

☐ a) x=0 and x=2　　　　　☐ b) x=-4 and x=0

☐ c) x=2 and x=3　　　　　☐ d) x=0 and x=4

7.

$y = 2x^2 + 4x + 5$

What is the y-intercept of this parabola?

☐ a) (−1, 3)　　　　　　　☐ b) (−3, 11)

☐ c) (−2, 5)　　　　　　　☐ d) (0, 5)

8.

What is the domain of the graph shown above.

(x-values)

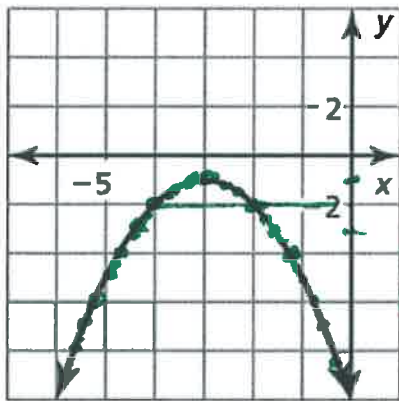....., 2, 3, 4, 5, 6, 7, ...

☐ a) x=19

☐ b) all real numbers

☐ c) y=3

☐ d) Maximum

9.

The range of the graph is _____

(y-values)

{....-4, -3, -2, -1}

numbers less than or equal to -1
y   ≤

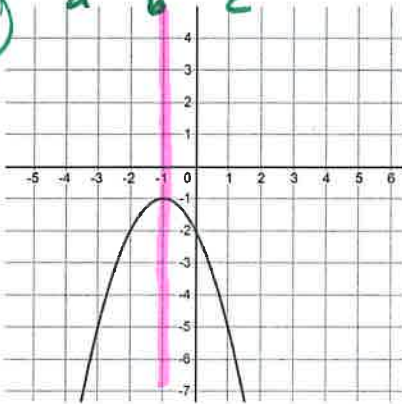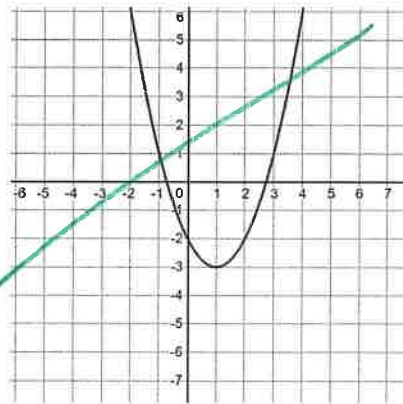☐ a) $y \geq -1$

☑ b) $y \leq -1$

☐ c) $y < -1$

☐ d) $y > -1$

10. Match the correct graph with the equation

$$y = -\underset{a}{x^2} - \underset{b}{2x} - \underset{c}{2}$$

☐ a)

☐ b)

☐ c)

☐ d)
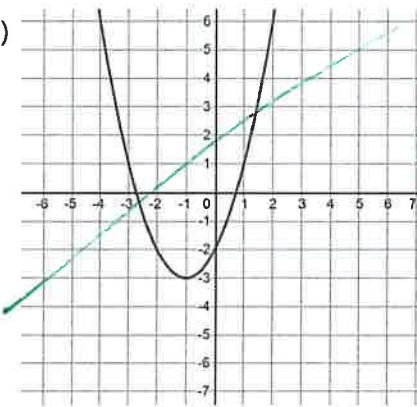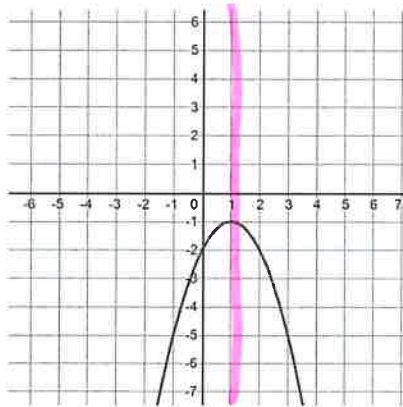
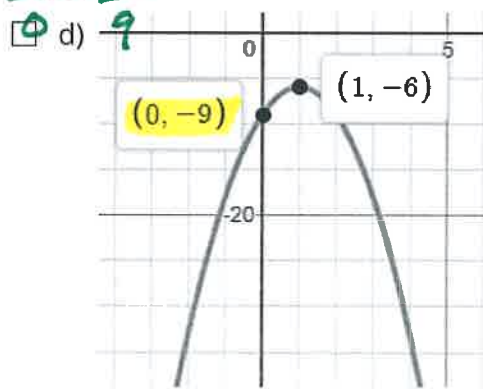$$x = \frac{-b}{2a}$$
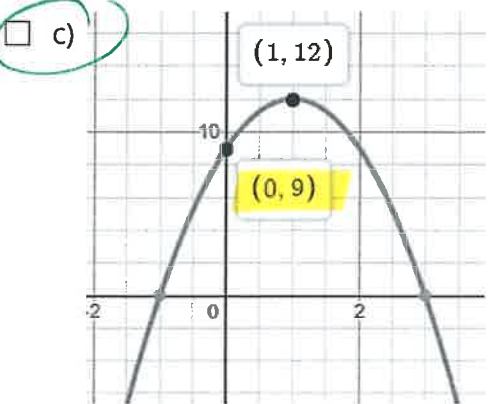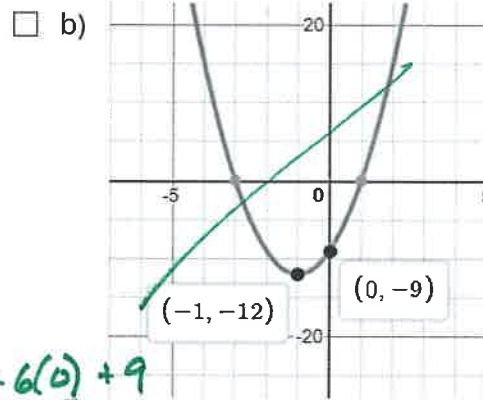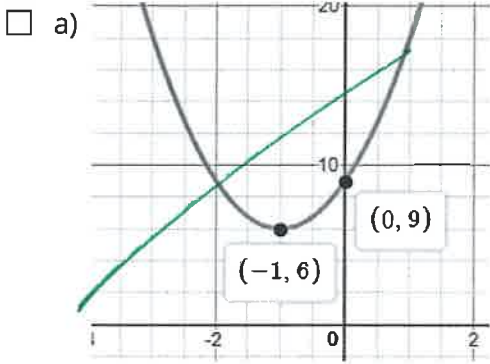
$$x = -\frac{(-2)}{2(-1)}$$

$$x = \frac{2}{-2}$$

$$\boxed{x = -1}$$

11. Select the graph of the function $y = -3x^2 + 6x + 9$

☐ a)

(0, 9)
(−1, 6)

☐ b)

(0, −9)
(−1, −12)

$$\frac{-3(0)^2 + 6(0) + 9}{0} \quad 9$$

☐ c) *(circled in green)*

(1, 12)
(0, 9)

☑ d)

(0, −9)
(1, −6)

horiz shift

$$y = a(x - h)^2 + k$$

stretch/shrink factor — h
vert. shift — k

12. If given the equation y = 3(x + 5)² − 4, what is the vertex of the parabola?

$$y = 3(x - (-5))^2 + (-4)$$
          h   k

☐ a) (5, -4)

☑ b) (-5, -4) *(circled)*

☐ c) (-15, -4)

☐ d) (15, -4)

13. What is the vertex of: y = (x-3)² + 6
          h   k

☐ a) (-3,6)

☐ b) (-3,-6)

☑ c) (3,6) *(circled)*

☐ d) (3,-6)

14. Compare y = x² − 7 to the parent function y = x²

☐ a) moves 7 units right

☐ b) moves 7 units left

☐ c) moves 7 units up

☑ d) moves 7 units down *(circled)*

$y = a(x-h)^2 + k$

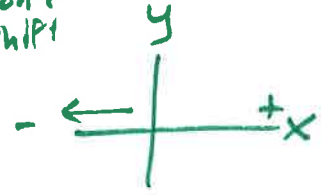15. Compare $y = (x + 10)^2$ to the parent function $y = x^2$

- [ ] a) moves 10 units right
- [ ] b) moves 10 units left
- [ ] c) moves 10 units up
- [ ] d) moves 10 units down

horiz shift

$(x - (-10))^2$ h

y

$- \longleftarrow \quad \dfrac{\quad}{\quad} \quad \xrightarrow{+} x$

16. Compare $y = 5(x + 6)^2 - 4$ to the parent function $y = x^2$

- [ ] a) vertical stretch, moves 6 units left and 4 units up
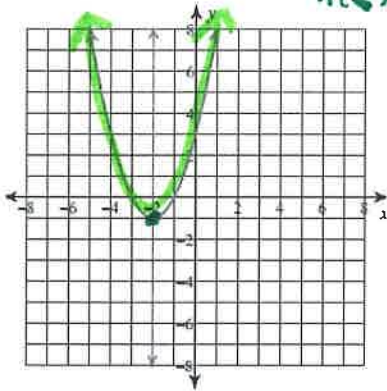- [ ] b) vertical stretch, moves 6 units left and 4 units down
- [ ] c) vertical shrink, moves 6 units right and 4 units up
- [ ] d) vertical shrink, moves 6 units right and 4 units down

$y = 5(x - (-6))^2 + (-4)$
$\quad\quad a \quad\quad\quad h(\leftrightarrow) \quad k(\updownarrow)$

17.

Which quadratic function is represented by the graph?

vertex : $(-2, -1)$ $y = a(x-h)^2 + k$
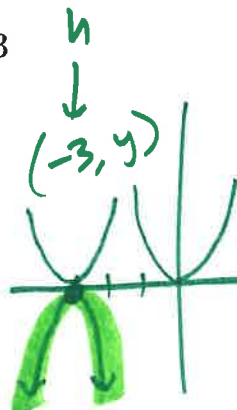   h   k $y = a(x - (-2))^2 + (-1)$

$$y = a(x+2)^2 - 1$$

- [ ] a) $f(x) = (x - 2)^2 - 1$
- [ ] b) $f(x) = (x + 2)^2 - 1$
- [ ] c) $f(x) = (x + 2)^2 - 1$
- [ ] d) $f(x) = (x - 2)^2 - 1$

18. Which function has a translation of 3 units left and reflects over the x-axis?

- [ ] a) $f(x) = (x + 3)^2 - 8$
- [ ] b) $f(x) = -(x + 8)^2 - 3$
- [ ] c) $f(x) = (x + 8)^2 - 3$
- [ ] d) $f(x) = -(x + 3)^2 + 8$

h
↓
$(-3, y)$

$y = a(x-h)^2 + k$

$x \quad y = -(x - (-3))^2 + k$

$y = -(x+3)^2 + k$