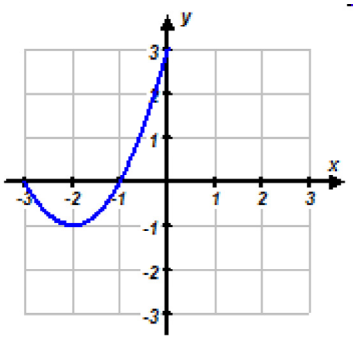
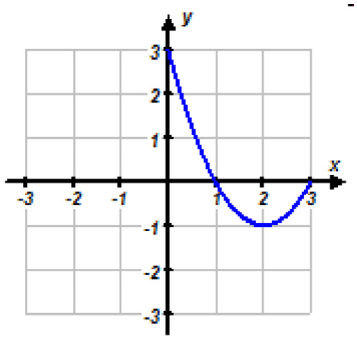
Name: _____ **Class:** _____ **Date:** _____ **ID: A**

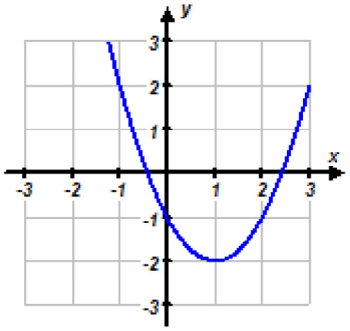
Unit 03-05 Quiz

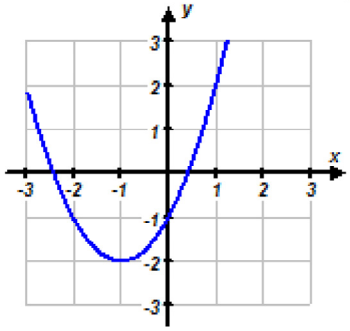
Multiple Choice
Identify the choice that best completes the statement or answers the question.

____ 1. Which is the graph of $y = (x-1)^2 - 2$?

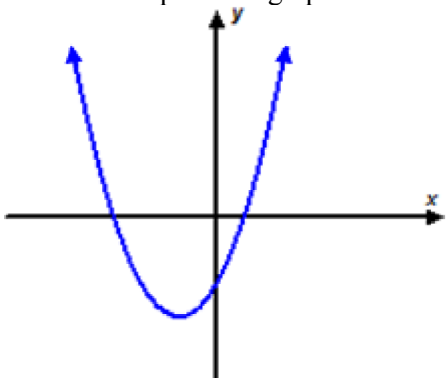
a.


c.


b.


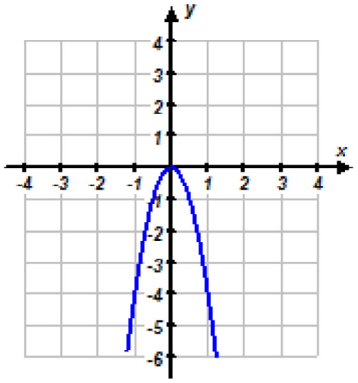
d.


____ 2. Consider the parabola graphed below is of the form: $y = (x-h)^2 + k$



Based on this graph which statement is most correct about the parameter 'k'?
a. $k < 0$
b. $k = 0$
c. $k > 1$

____ 3. What is the equation of the following parabola in vertex form?



a. $y = 4x^2$

b. $y = -4x^2$

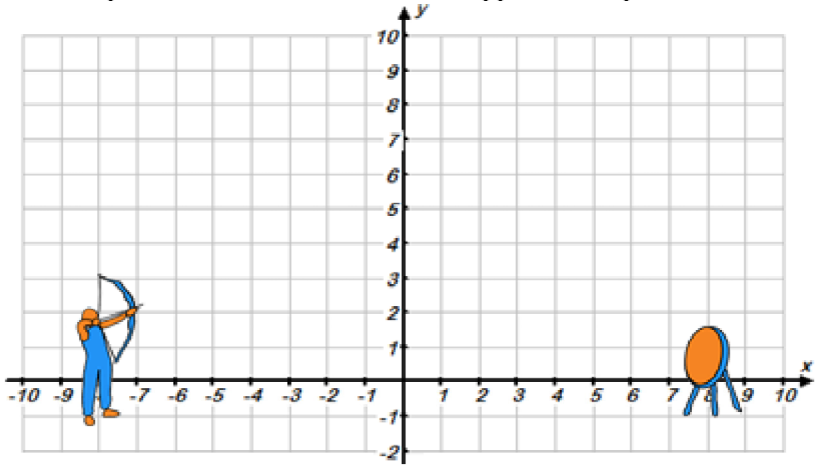
c. $y = \frac{1}{4}x^2$

d. $y = -\frac{1}{4}x^2$

____ 4. If the original parabola defined by $y = x^2$, how would it change if $y = 2(x-3)^2 + 1$ were graphed instead?

a. The parabola would be **vertically stretched factor 2**, translated **right 3** and **up 1**.
b. The parabola would be **vertically compressed factor ½**, translated **left 3** and **down 1**.
c. The parabola would be **vertically compressed factor ½**, translated **right 3** and **down 1**.
d. The parabola would be **vertically stretched factor 2**, translated **left 3** and **up 1**.

____ 5. Which equation would best describe an approximate path of the arrow to the target as shown in the graph?



a. $y = -12(x + 1.65)^2 + 5$

b. $y = 12(x - 1.65)^2 + 3$

c. $y = -0.03(x + .75)^2 + 3$

d. $y = 0.03(x - .75)^2 + 4$

____ 6. Given the standard form of a parabola, $y = x^2 - 12x + 40$, determine the vertex form of the graph.

a. $y = (x-6)^2 + 40$

b. $y = (x+6)^2 + 36$

c. $y = (x-6)^2 + 4$

d. $y = (x-12)^2 - 36$

____ 7. Given the standard form of a parabola, $y = 2x^2 + 12x + 26$, determine the vertex form of the graph.

a. $y = (x+6)^2 - 10$
b. $y = 2(x+3)^2 + 8$
c. $y = 2(x+6)^2 - 10$
d. $y = 2(x+3)^2 - 10$

____ 8. The following parabola is in standard form:

$$y = x^2 - 12x - 5$$

What would need to be put in the space below to complete the square and covert to vertex form.

$y = x^2 - 12x$  $- 5$

a. +36 −36
b. +144 −144
c. +6 −6
d. +12 −12

____ 9. Matt was trying to convert the following parabola in standard form to vertex form by completing the square but has made an error.

$y = 2x^2 - 10x - 4$

$y = 2x^2 - 10x \quad - 4$

$y = 2x^2 - 10x$ +25 −25  $- 4$

$-5 \rightarrow 25$

$y = 2(x-5)^2 - 29$

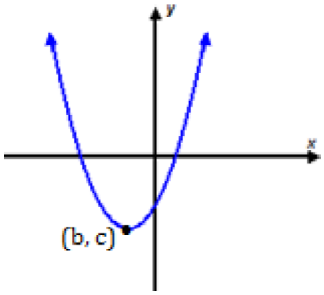
Which describes where Matt made his first error?

a. Matt should have added 10 and subtracted 10 instead of using the constant 25.
b. Matt should have factored out the leading coefficient 2 on the second step before completing the square.
c. Matt should have doubled the -5 in the last step.
d. Matt should have first subtracted 25 and then added 25 to properly completely the square.

____ 10. What is the vertex of the following parabola?
$y = x^2 - 12x + 9$

a. $(6, -27)$
b. $(-12, 9)$
c. $(12, -9)$
d. $(-6, -27)$

____ 11. What is the **RANGE** of the following Parabola?



a. $y \le b$
b. $y \ge b$
c. $y \le c$
d. $y \ge c$

____ 12. Which parabola below has a **maximum** value?

a. $y = 4x^2 + 24x + 23$
b. $y = 0.1x^2 - 3x$
c. $y = 2x - 3x^2$
d. $y = x^2 + 2x + 20$

____ 13. What is the **RANGE** of the following graph?
$y = -x^2 - 2x - 5$

a. $y \le 1$
b. $y \ge -1$
c. $y \le -4$
d. $y \ge 4$