Characteristics of Functions Practice
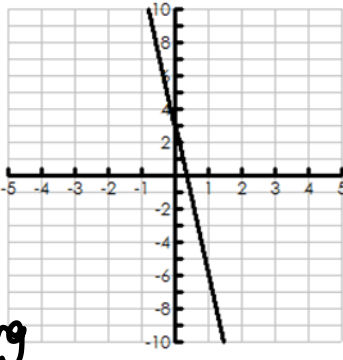
1.

Domain: $(-\infty, \infty)$

Range: $(-\infty, \infty)$

Intercepts:
x-int: $(0.5, 0)$
y-int: $(0, 3)$

Increasing or
Decreasing: Decreasing
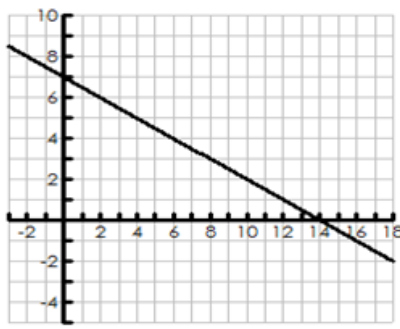
End behavior:
$x \to -\infty, y \to$ _∞_

$x \to \infty, y \to$ _-∞_

2.

Domain:

Range:

Intercepts:

Increasing or
Decreasing:

End behavior:
$x \to -\infty, y \to$ _____

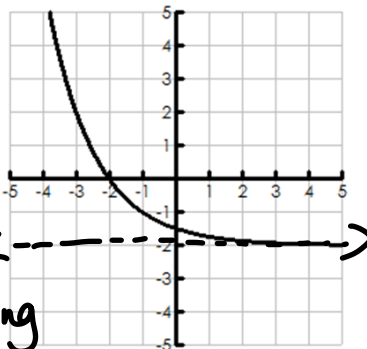$x \to \infty, y \to$ _____

3.

Domain: $(-\infty, \infty)$

Range: $(-2, \infty)$

Asymptote: $y = -2$

X-intercept: $(-2, 0)$

Y-intercept: $(0, -1.5)$

Increasing or
Decreasing: Decreasing

End behavior:
$x \to -\infty, y \to$ _∞_

$x \to \infty, y \to$ _-2_

4.

Domain:

Range:
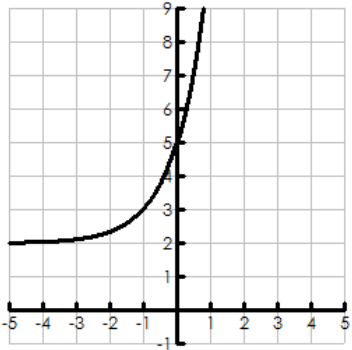
Asymptote:

X-intercept:

Y-intercept:

Increasing or
Decreasing:

End behavior:
$x \to -\infty, y \to$ _____

$x \to \infty, y \to$ _____

5.

Domain: $(-\infty, \infty)$
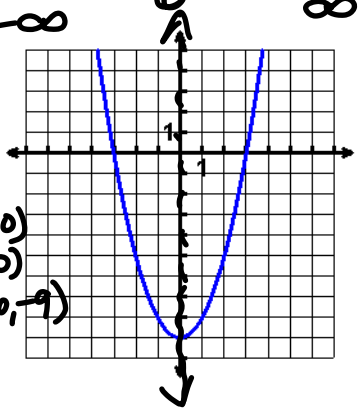
Range: $[-9, \infty)$

Intercepts: x-int: $(-3, 0)$
$(3, 0)$
y-int: $(0, -9)$

A.O.S.:
$x = 0$

Vertex:
$(0, -9)$

Increasing: $(0, \infty)$
Decreasing: $(-\infty, 0)$

End behavior:
$x \to -\infty, y \to$ _∞_

$x \to \infty, y \to$ _∞_

6.

Domain:

Range:

Intercepts:
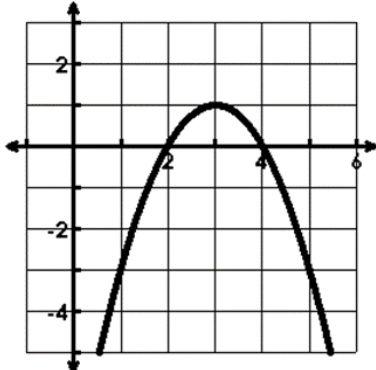
A.O.S.:

Vertex:

Increasing:
Decreasing:

End behavior:
$x \to -\infty, y \to$ _____

$x \to \infty, y \to$ _____

7. You had 20 shirts in your closet before you went shopping. Every week, you went to the mall and bought 3 times as many new shirts. Write an equation for the exponential equation, and determine the key features of this function.

$y = ab^x$

Equation: $y = 20(3)^x$

Discrete or Continuous: Discrete

Domain: $\{0, 1, 2, 3, \ldots\}$

Range: $\{20, 60, 180, 540, \ldots\}$

X-intercept: None

Y-intercept: $(0, 20)$

Max or Min: Min = 20

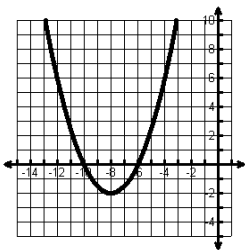Increasing or Decreasing: Increasing

Number of Visits, x	Number of Shirts, f(x)
0	20
1	60
2	180
3	540
4	1620

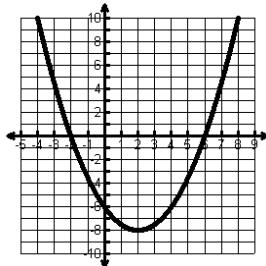8. The quadratic function $f(x)$ has these characteristics:

- The vertex is located at $(8, -2)$.

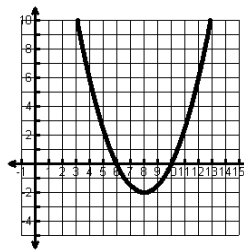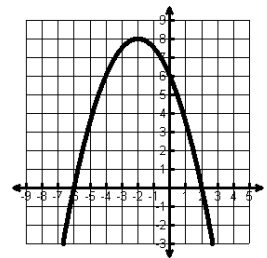- The range is $[-2, \infty)$.

Which graph could be $f(x)$?

A.

B.

C.

D.

9. A taxi company in Atlanta charges $2.75 per ride plus $1.50 for every mile driven. Write the equation for the line, and determine the key features of this function.

Equation: _____

Discrete or Continuous: _____

Domain: _____

Range: _____

Intercepts: _____

Increasing or Decreasing: _____