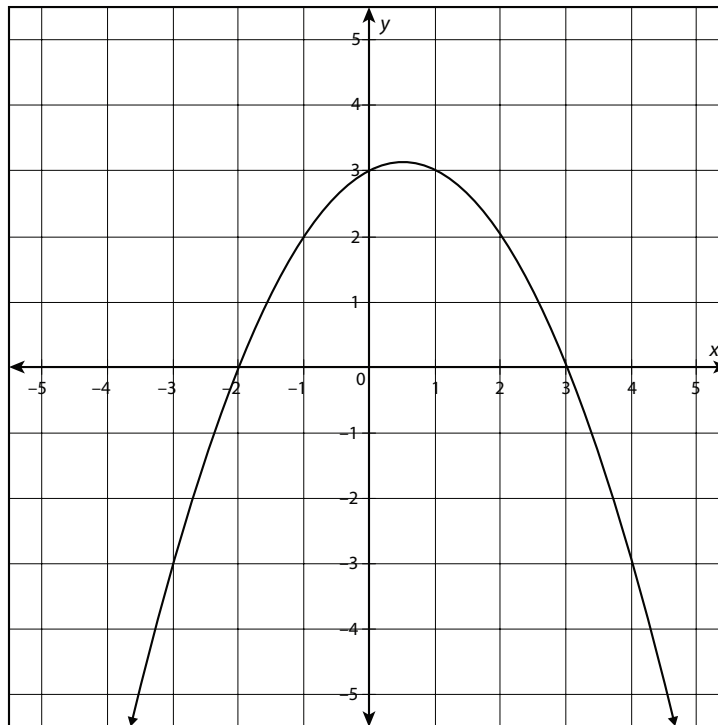


UNIT 5 • COMPARING AND CONTRASTING FUNCTIONS**Lesson 1: Key Features of Functions****Assessment****Pre-Assessment**

Circle the letter of the best answer.

1. For the function $f(x) = \frac{1}{2}x^2 + \frac{1}{2}x - 3$, identify the type of function and the maximum number of x -intercepts the function can have.
- a. linear, one x -intercept
b. exponential, one x -intercept
c. quadratic, two x -intercepts
d. none of the above
2. For the following graph, identify the left and right end behaviors.



- a. left: approaching ∞ ; right: approaching $-\infty$
b. left: approaching ∞ ; right: approaching ∞
c. left: approaching $-\infty$; right: approaching $-\infty$
d. left: approaching $-\infty$; right: approaching ∞

continued

UNIT 5 • COMPARING AND CONTRASTING FUNCTIONS**Lesson 1: Key Features of Functions****Assessment**

3. Brookelyn has \$50 in her savings account, which earns 3% each month. The total balance of Brookelyn's account after x number of months is represented by the function $m(x) = 50(1.03)^x$. Identify the type of function and the left and right end behaviors on the restricted domain $x \geq 0$.
- quadratic
left end behavior: equals 50 (not increasing or decreasing)
right end behavior: approaching ∞
 - exponential
left end behavior: equals 50 (not increasing or decreasing)
right end behavior: approaching ∞
 - linear
left end behavior: approaching $-\infty$
right end behavior: approaching ∞
 - exponential
left end behavior: approaching 0
right end behavior: approaching $-\infty$

continued

Name: _____

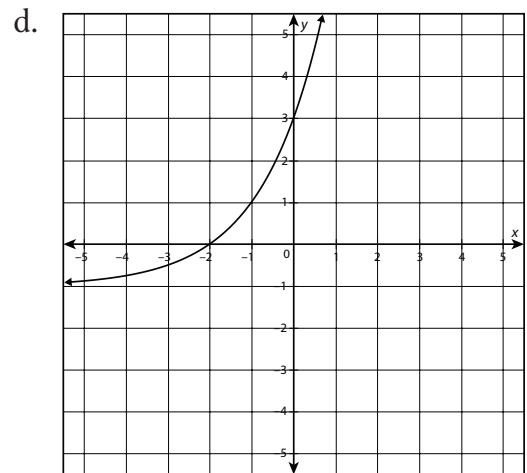
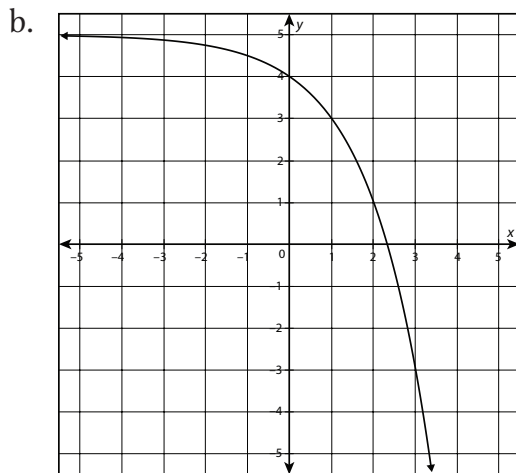
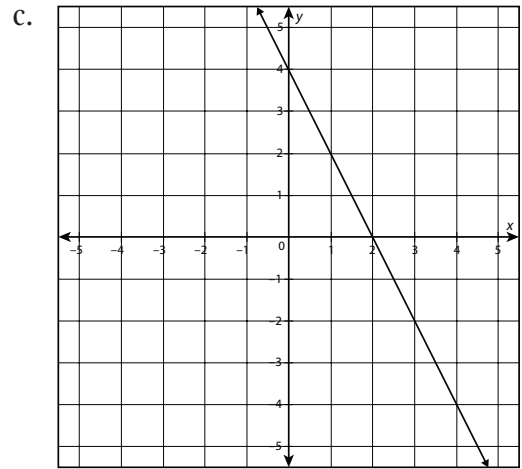
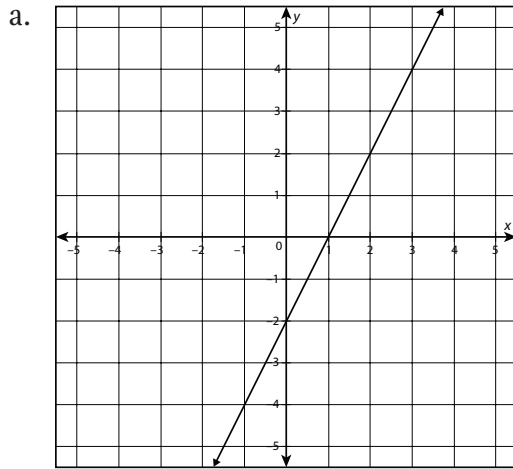
Date: _____

UNIT 5 • COMPARING AND CONTRASTING FUNCTIONS

Lesson 1: Key Features of Functions

Assessment

4. Which of the following graphs represents a function that is increasing, is negative when $x < -2$, and has a right end behavior that approaches infinity?



continued

Name: _____

Date: _____

UNIT 5 • COMPARING AND CONTRASTING FUNCTIONS

Lesson 1: Key Features of Functions

Assessment

5. Which of the following graphs represents a function that is positive for $-1 < x < 3$, has a relative maximum of 4, and has an end behavior that approaches negative infinity?

