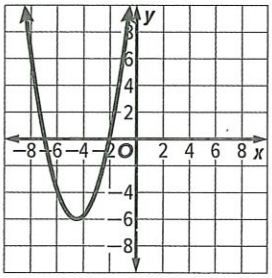
Name _____ Period _____ Date _____

Show all work for each problem. Every problem must be completed for full credit.

Test Practice

1. MULTIPLE CHOICE If the codomain is all real numbers, which of the following describes the function shown? (Lesson 1-1)



(A) onto

(B) one-to-one

(C) neither

(D) both

2. MULTIPLE CHOICE Salvatore is a plumber. He charges $100 for all work that is completed in less than 2 hours. He charges $250 for work that requires 2 to 5 hours, and he charges $400 for work that takes between 5 and 8 hours.

Which best describes the graph of the function that models Salvatore's price scale? (Lesson 1-1)

(A) Continuous; range: $\{y \mid y = 100, 250, 400\}$

(B) Continuous; domain: $\{x \mid 0 < x \leq 8\}$

(C) Discontinuous; range: $\{y \mid y = 100, 250, 400\}$

(D) Discontinuous; domain: $\{x \mid x = 2, 5, 8\}$

3. MULTI-SELECT Select all functions that are linear. (Lesson 1-2)

(A) $f(x) = 3x^2 + 11$

(B) $y = 9x$

(C) $2x - 11y = 8$

(D) $g(x) = |3x - 4|$

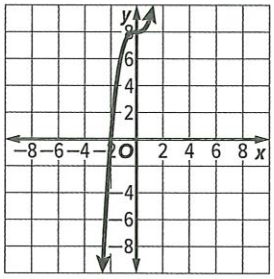
(E) $yx = 5$

4. OPEN RESPONSE The table shows the amount of money Tia owed her friend over time after borrowing the money to go to a theme park. (Lesson 1-2)

Week	0	1	2	3	4	5	6
Amount	$80	$68	$52	$39	$21	$10	$0

What are the coordinates of the x-intercept and the coordinates of the y-intercept?

5. MULTIPLE CHOICE What type of symmetry is shown? (Lesson 1-2)



(A) line symmetry

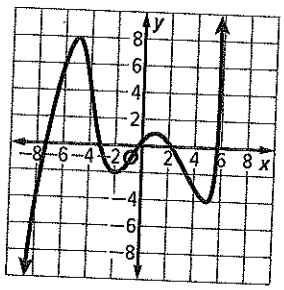
(B) point symmetry

(C) both line and point symmetry

(D) no symmetry

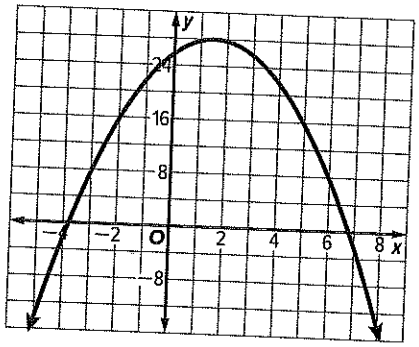
Name _____ Period _____ Date _____

6. TABLE ITEM Indicate whether each of the following x-values is a *relative maximum*, *relative minimum* or *neither*. (Lesson 1-3)



x-coordinate	Relative Maximum	Relative Minimum	Neither
−5			
−4			
−2			
0			
1			
5			

7. OPEN RESPONSE The graph shows the height of a ball after being thrown from a height of 1 foot.



Explain why the end behavior does or does not make sense in this context. (Lesson 1-3)

8. MULTI-SELECT Select the function(s) that could be graphed from these features:

- Has a point located at (0, 0);
- Increasing when $x \geq 0$. (Lesson 1-4)

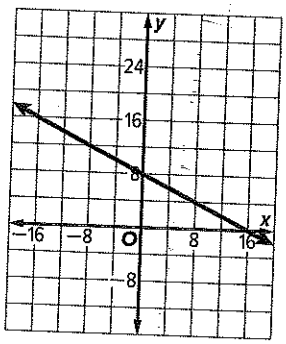
(A) $f(x) = -x$

(B) $g(x) = x^2$

(C) $h(x) = |x|$

(D) $j(x) = -x^3$

9. MULTIPLE CHOICE Sofia is sketching the graph of a function. She knows that as $x \to \infty$, $y \to -\infty$ and that the function has a y-intercept at (0, 7). Which other feature fits the sketch of the graph? (Lesson 1-4)



(A) as $x \to -\infty$, $y \to -\infty$

(B) x-intercept at (−14, 0)

(C) increases for y in the interval $7 < x < 14$

(D) decreases for y in the interval $-16 < x < 8$

10. OPEN RESPONSE What are the domain and range of $f(x)$? (Lesson 1-5)

$$f(x) = \begin{cases} \frac{1}{2}x + 5 & \text{if } x > 2 \\ x^2 & \text{if } x < 2 \end{cases}$$