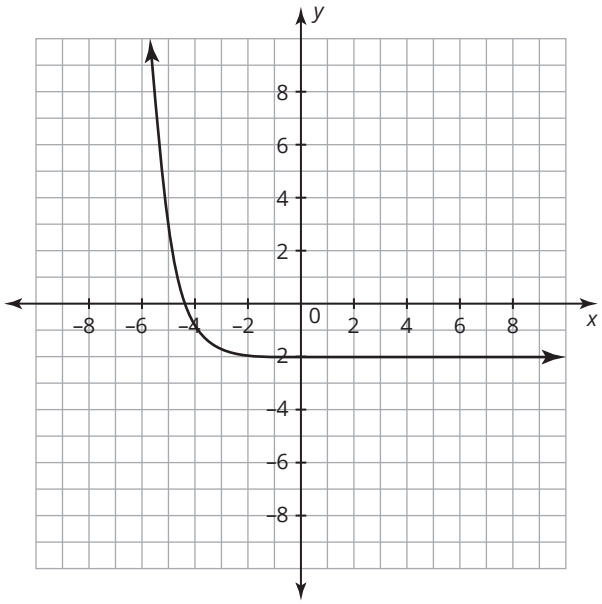
Enhanced End of Topic Assessment

Name _____ Date _____

Part A: Multiple-Choice Questions

1. Which characteristics best describe the graph?



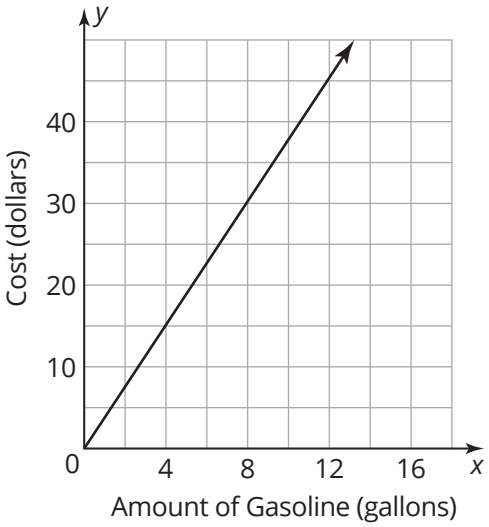
a. Is a function
Is exponential
Is discrete
Is increasing

b. Is a function
Is exponential
Is continuous
Is decreasing

c. Is a function
Is quadratic
Is continuous
Is both increasing and decreasing

d. Is a function
Is linear
Is discrete
Is constant

2. A gas station owner calculates the cost of the gasoline he needs to purchase for the year and records it on the graph below.



Which answer choice best describes the domain and range of the function in this situation?

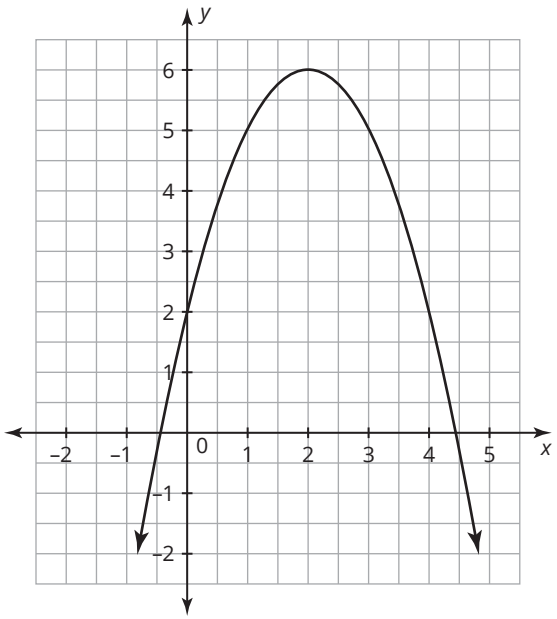
a. Domain: All real numbers greater than or equal to 0
Range: All real numbers greater than or equal to 0

b. Domain: All real numbers greater than or equal to 0 and less than or equal to 13
Range: All real numbers greater than or equal to 0 and less than or equal to 50

c. Domain: All real number
Range: All real numbers

d. Domain: All real numbers greater than or equal to 0 and less than or equal to 50
Range: All real numbers greater than or equal to 0 and less than or equal to 13

3. The graph of quadratic function r is shown on the grid.



Which answer choice best represents the range of r?

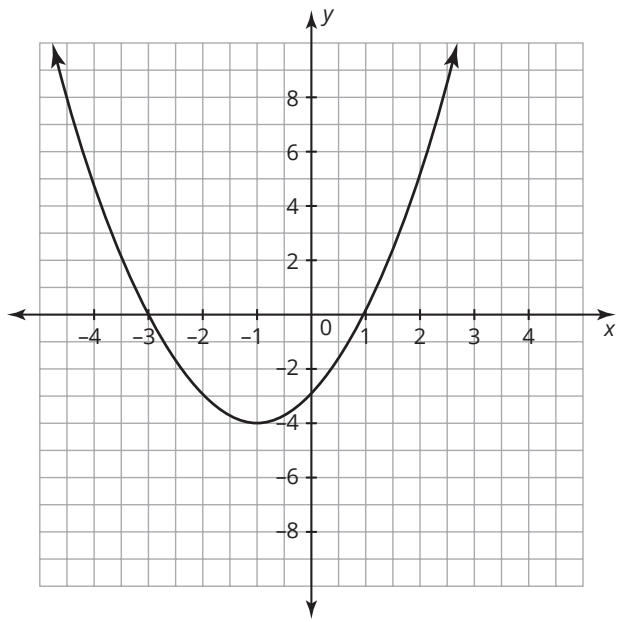
a. $-0.5 \leq x \leq 4.5$

b. $y \geq 6$

c. $y \leq 6$

d. all real numbers

4. The graph of quadratic function n is shown on the grid.



Which answer choice best represents the domain of n?

a. $-3 \leq x \leq 1$

b. $y \geq -4$

c. $y \leq -4$

d. all real numbers

5. Which table shows *y* as a function of *x*?

a.

x	4	4	4	4
y	–3	8	10	14

b.

x	2	4	6	8
y	4	8	8	16

c.

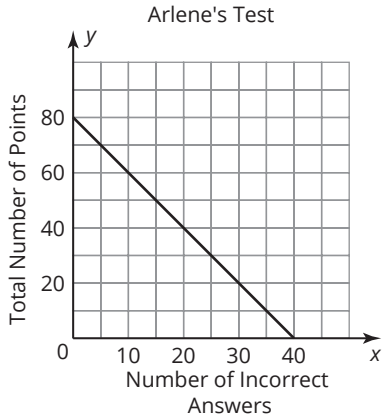
x	3	–3	–3	–9
y	2	4	8	16

d.

x	0	0	1	2
y	1	2	3	4

Part B: Open-Response Questions

6. Arlene begins a test with a possible total of 80 points. She loses 2 points for every question she answers incorrectly. The graph represents this situation.



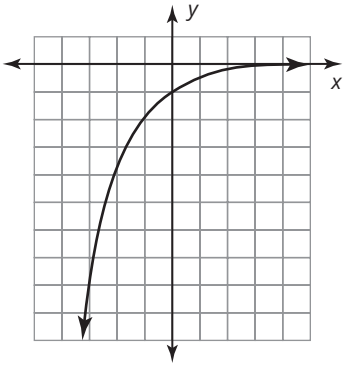
a. Identify the domain and range.

b. Identify the *y*-intercept and explain what it means in the problem situation.

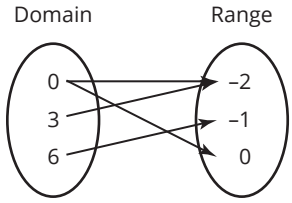
c. Is the graph increasing, decreasing, both increasing and decreasing, or constant? Explain your reasoning.

7. Determine whether each relationship represents a function. Explain why or why not.

a.



b.



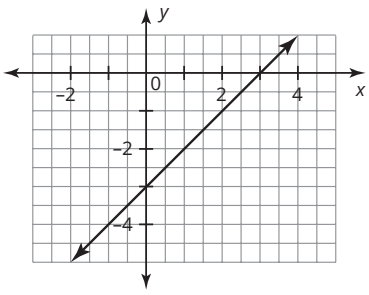
8. Determine whether the function has an absolute maximum or absolute minimum. If the graph has neither an absolute maximum nor an absolute minimum, write *none*.

$f(x) = x^2 + 2x - 3$

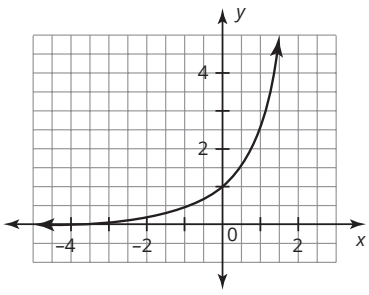
9. Match each function to its graph. Identify the type of function for each.

a. $f(x) = -x^2 + 2$ **b.** $f(x) = 3^x$ **c.** $f(x) = x - 3$

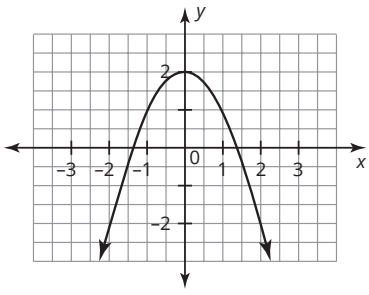
Graph A



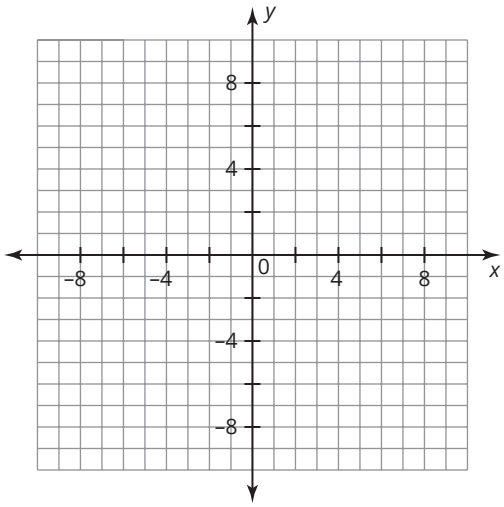
Graph B



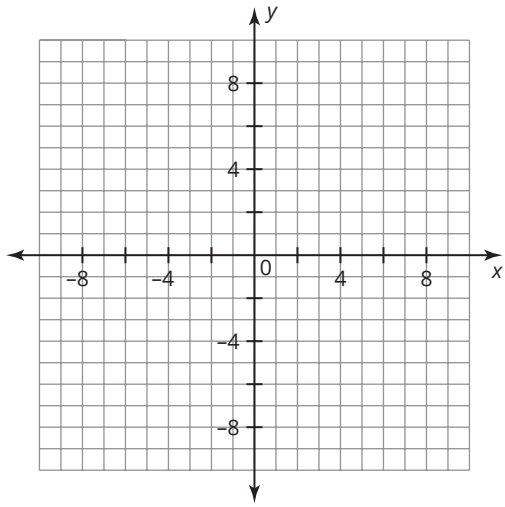
Graph C



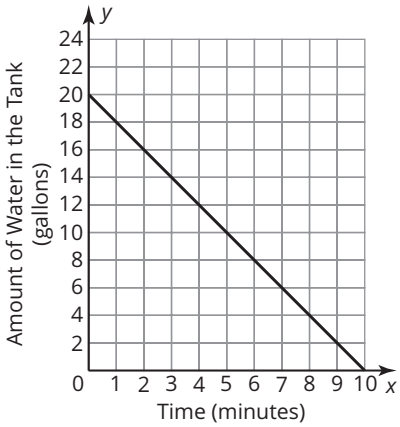
10. Create an equation and sketch a graph of a function that is linear, continuous, and increasing with an *x*-intercept at (-2, 0).



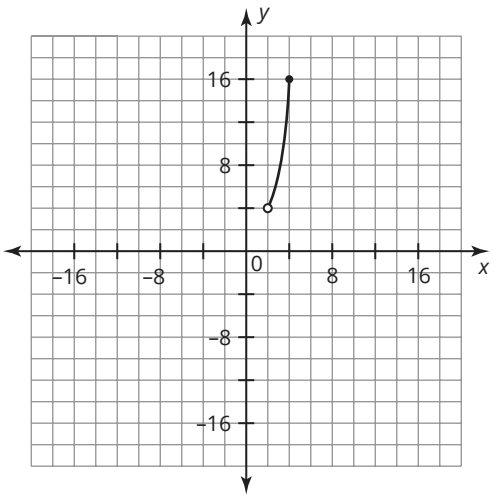
11. Create an equation and sketch a graph of a function that is quadratic, continuous, and has an absolute minimum at (0, –5).



12. Jasmine uses a pump to drain the water out of her fish tank. The graph shows the water level of the tank in gallons over time. Explain the *y*-intercept of the graph in term of the situation.



13. Part of an exponential function is graphed on the grid. Write the domain and range of the part shown in words and using inequalities.



Domain in words:

Domain using inequalities:

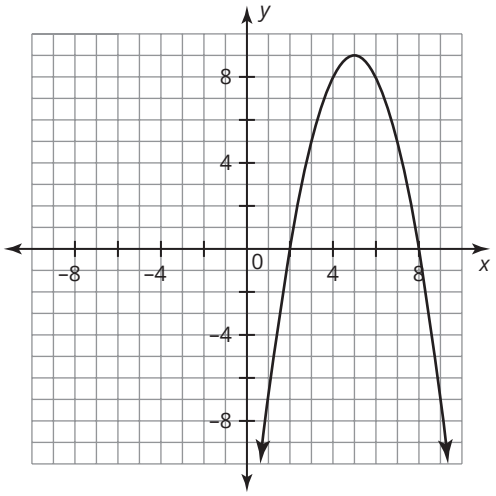
Range in words:

Range using inequalities:

Part C: Griddable Response Questions

Record your answers and fill in the bubbles.

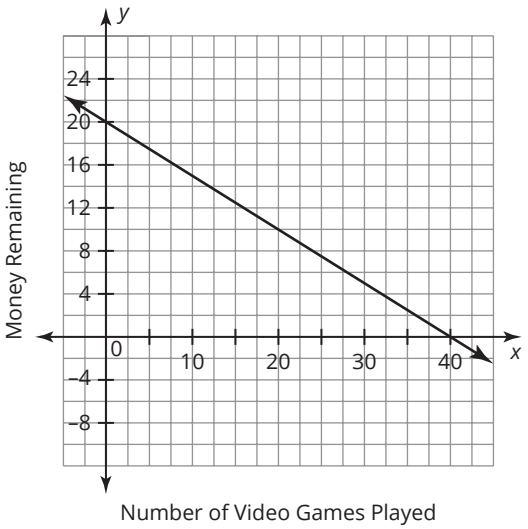
14. The graph of the quadratic function f is shown on the grid. The coordinates of the x-intercepts, y-intercept, and vertex are integers.



What is the maximum value of f?

+	.	.	.	.	.	.	.
−	0	0	0	0	0	0	0
	1	1	1	1	1	1	1
	2	2	2	2	2	2	2
	3	3	3	3	3	3	3
	4	4	4	4	4	4	4
	5	5	5	5	5	5	5
	6	6	6	6	6	6	6
	7	7	7	7	7	7	7
	8	8	8	8	8	8	8
	9	9	9	9	9	9	9

15. Issac is playing video games at an arcade. The amount of money Issac has remaining can be found using the equation $y = 20 - 0.50x$, where x is the number of games Issac has played. How many games can Issac play if he spends all his money?



⊕	·	·	·	·	·	·	·
⊖	0	0	0	0	0	0	0
	1	1	1	1	1	1	1
	2	2	2	2	2	2	2
	3	3	3	3	3	3	3
	4	4	4	4	4	4	4
	5	5	5	5	5	5	5
	6	6	6	6	6	6	6
	7	7	7	7	7	7	7
	8	8	8	8	8	8	8
	9	9	9	9	9	9	9