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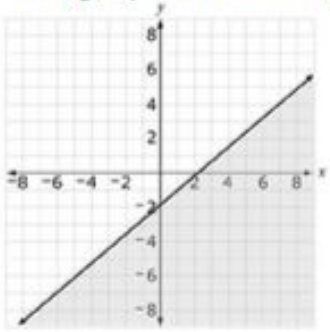
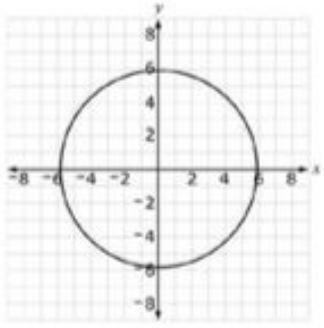
FUNCTIONS: ANALYZING A

1	**Example Stem:** Which relation defines y as a function of x? A. The proportional relationship $y = 2.4x$. B. The table showing the age in years, x, and weight in pounds, y, of five dogs. C. The graph of an inequality as shown by the shaded region. D. The graph of $x^2 + y^2 = 36$ as shown.	A

x	y
3	30
4	38
4	21
5	9
6	42





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2	Select all that apply **Example Stem:** Which equation defines p as a function of t? A. $p = 3t + 2$ B. $t = 3p + 2$ C. $p = 0t + 2$ D. $t = 0p + 2$	A, B and C
3	**Example Stem 1:** Select **all** ordered pairs that correspond to input-output pairs for the function $y = -6x + 7$. A. (1, 1) B. (−1, 1) C. (−6, 7) D. (3, −11)	A and D
4	**Example Stem 2:** A swimming pool had 30 gallons of water in it. Then water was added to the pool at a rate of 5 gallons per second. The function $y = 5t + 30$ describes the relationship between the number of gallons, y, and the number of seconds water was added, t. Select **all** of the ordered pairs that correspond to input-output pairs for the function. A. (45, 3) B. (3, 45) C. (0, 30) D. (30, 0)	B and C

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5	**Example Stem 1:** Consider the function represented by this table of values. x | y -4 | -10 -3 | -7 -2 | -4 -1 | -1 0 | 2 Which function could have produced the values in the table? A. $y = -x - 14$ B. $y = -3x + 2$ C. $y = 3x - 22$ D. $y = 3x + 2$	D
6	**Example Stem 2:** A swimming pool has 30 gallons of water in it. Water is added to the pool at a rate of 5 gallons per second. Which equation models the relationship between W, the number of gallons of water, and t, the number of seconds water is being added to the swimming pool? A. $W = 30t + 5$ B. $W = 5t + 30$ C. $W = t + 35$ D. $W = 35t$	B

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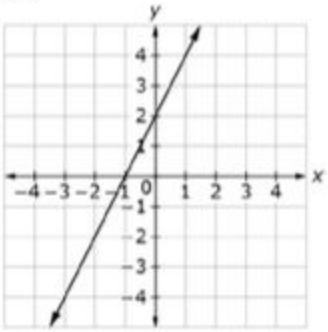
7	**Example Stem:** Each relation shown defines y as a function of x. Which function has the greatest rate of change? A. $y = \frac{7}{3}x + 4$ B. $y = 3x - 1$ C. x | y 0 | 4 2 | 12 4 | 20 6 | 28 D. 	C

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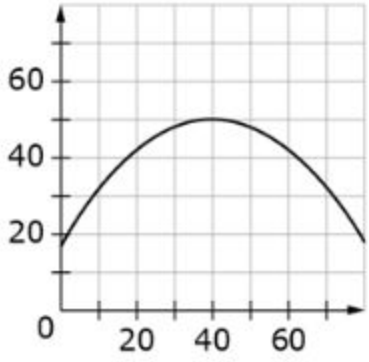
Example Stem: Several functions are represented in the table.

Determine whether each function could be linear.

Function	Could be linear	Cannot be linear
$y = \frac{3}{4}x + 2$		
		
<table><tr><th>x</th><th>y</th></tr><tr><td>−2</td><td>5</td></tr><tr><td>−1</td><td>9</td></tr><tr><td>0</td><td>13</td></tr><tr><td>1</td><td>17</td></tr><tr><td>2</td><td>21</td></tr></table>		

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N
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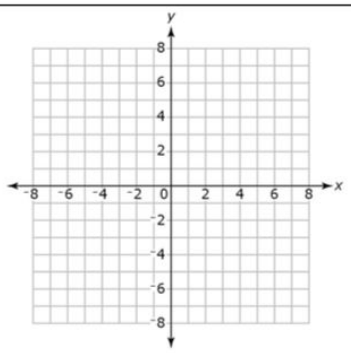
CLAIM 2

Grades 6-8, Claim 2
Example Item 2B.1c (Grade 8):
Primary Target 2B (Content Domain F), Secondary Target 1E (CCSS 8.F.A)

This table shows some values of a linear function.

x	y
−1	−5
1	−1
3	3

Use the Add Arrow tool to draw the graph of a **different** function that has the **same** rate of change as the one shown in the table of values.



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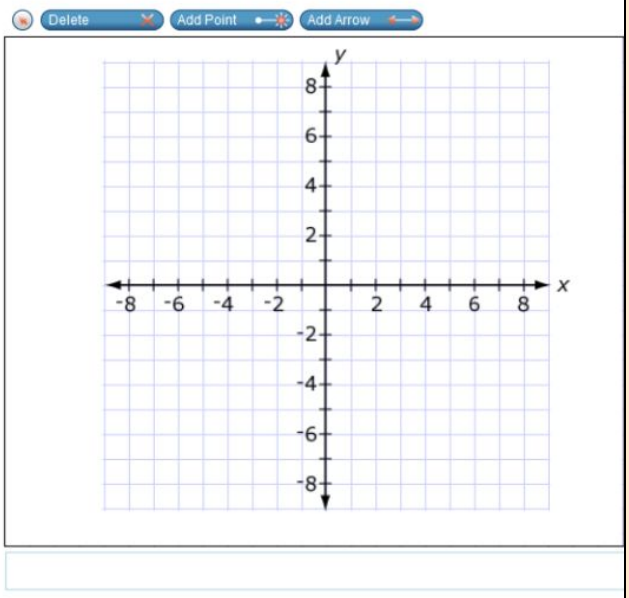
FUNCTIONS: ANALYZING B

1	**755** John and Kim wrote down two different functions that have the same rate of change. John's function is represented by the table shown. Use the Add Arrow tool to graph a function that could be Kim's function.	Graph

x	y
-1	-5
1	-1
3	3



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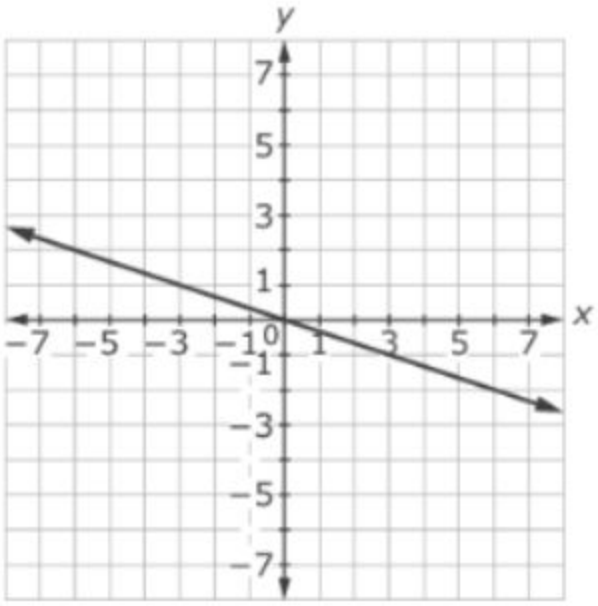
2	**770** Look at the graph of the linear equation.  Write an equation for the line in slope-intercept form.	y = -1/3x

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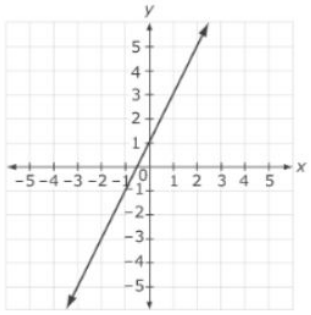
3	**771** Look at this graph of a function.  Which equation represents a function with a rate of change that is **greater than** the rate of change of the function shown in the graph? Ⓐ $y = 3x - 1$ Ⓑ $y = \frac{x}{2} + 4$ Ⓒ $y = 2x + 2$ Ⓓ $y = \frac{x}{3} - 3$	A

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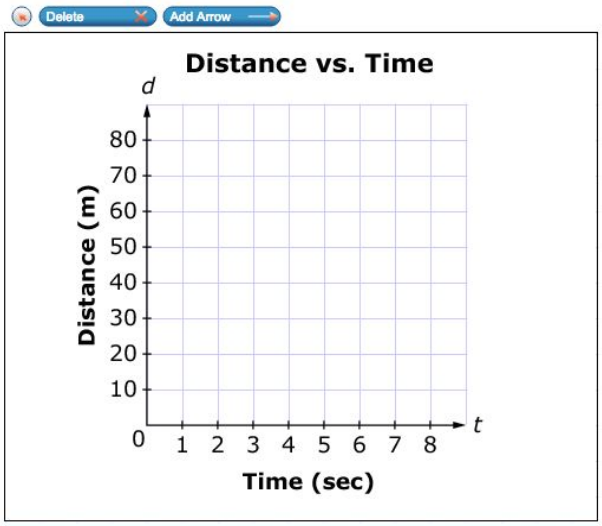
FUNCTIONS: ANALYZING C

1	**2** The distance (d) in meters a car travels in t seconds is shown in the table. | d	t
---	---
10	1
20	2
30	3
40	4
50	5 | Use the Add Arrow tool to graph the proportional relationship between the distance (d) traveled by a car and the time (t). 	Graph
2	**25** Select **all** the equations that can be represented by a straight line when graphed on the coordinate plane. ☐ $\frac{1}{x} + y = 9$ ☐ $x = 16 + 3y$ ☐ $x = -2y^2 + 7$ ☐ $8x - 5y = 30$ ☐ $y = -6(x + 10)$ ☐ $y = x(3 - x) + 1$	$x = 16 + 3y$ $8x - 5y = 30$ $y = -6(x + 10)$ $y = x(3 - x) + 1$

Functions Analyzing Practice C

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