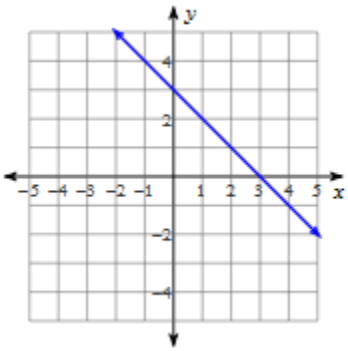
Moving Straight Ahead Unit Test Review Name_____ Per__

8.F.4 Construct a function to model the relationship between two values [1 – 4, 6]
8.EE.5 Graph proportional relationships and compare two proportional relationships represented in different ways [5-6]
8.EE.7. Solve one-variable linear equations. [7-10]
7.EE.4b: Solve inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. [11-14]

For each graph below, identify the y-intercept, the slope, and then write the equation.

1.

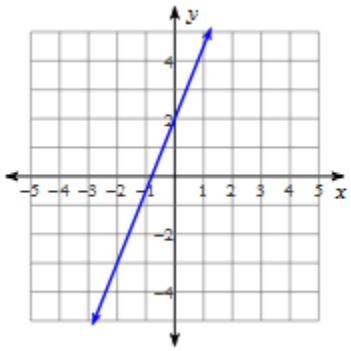


y-intercept: _____

slope: _____

equation: _____

2.



y-intercept: _____

slope: _____

equation: _____

3. A plumber charges a fixed fee of $45 for coming to the job, plus $30 for each hour he works.

a. Write an equation to model the plumber's fees. Use *C* for cost and *h* for the number of hours worked.

b. What is the y-intercept?

c. What is the slope?

4. From the table below, find the following:

slope: _____

y-intercept: _____

equation: _____

x	*y*
0	7
1	17
2	27
3	37
4	47

5. Which of the trains below travels faster? Explain your thinking.

Train A travels 8 miles in 5 minutes.

The table below describes how Train B travels.

Time (min)	3	6	9
Distance (miles)	5	10	15

6. On Saturdays, Jim likes to go to play video games, but he doesn't own a system. He can go to the mall or to a place within walking distance. Round-trip bus fare to and from the mall is $3.50, and Jim spends $0.50 for each video game. The place he can walk to have more expensive games – the cost of each video game is $0.75 per game.

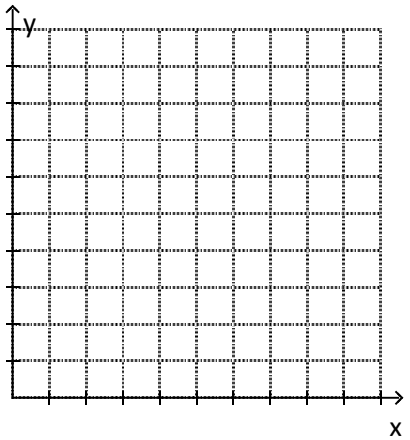
   a. Complete the table to show the cost for Jim at the Mall (M_1) and at the place within walking distance (M_2) for *N* games.

Games played (*N*)	**0**	**2**	**4**	**6**	**8**	**10**	**12**	**14**	**16**
At the Mall (including bus ride)$ (M_1)									
Place he can walk to $ (M_2)									

   b. Write an equation for the amount of money it costs Jim to go to the mall to play *N* video games:

   c. Write an equation for the amount of money it costs Jim to walk to play *N* video games:

   a. On the axes below, graph the relationship of cost and number of video games. Make sure to label your graphed lines and axes.



   b. How many video games would Jim have to play for the cost to be the same? How do you know?

Solve each equation.

7) $5 = m + 3 + 5$

8) $3 + 3a = 1 - 3a - 2a + 10$

9) $176 = 4(8 - 7v) + 4v$

10) $8(x + 1) = 8(1 + 3x) - 7x$

Solve each inequality and graph its solution.

11) $n + 6 - 3 > 11$

12) $-9 \geq -3x - 5 - 1$

13) $-2(7x + 4) < 104$

14) $-26 - 2x \geq 8 - 6(8x - 2)$