**1.*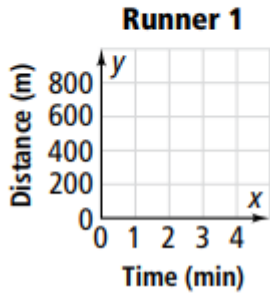* To make a multi-age 800-meter race fair, Runner 1 gets a 100-meter head start. He runs 350 meters every 2 minutes. Represent on the graph how Runner 1 runs the race.

Runner 1

2. Runner 2 gets a 75-meter head start. Her rate is 210 meters per minute. Complete the table.

Time (min)	0	1	2	3	4
Distance (m)					

3. Runner 3 does not get a head start. He runs 750 meters every 7 minutes. Write an equation to represent Runner 3's distance y for distance x.

4. Which runner is in front after 1 minute? Will that runner win the race. Explain.

5. A Chevy drives at constant speed given by the equation $y = 35x$ where where x is the number of hours driven and y is the distance traveled. The number of miles a Ford drives in x hours is modeled by the equation $y = 45x$. Who drives faster?
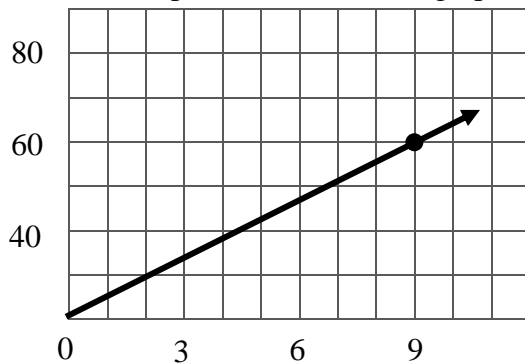
6. Find the slope of the line for the following:

a) $(3,4)$ $(6,16)$

b) $(-2,4)$ $(4,-8)$

c) $(-8,-3)$ $(-2,7)$

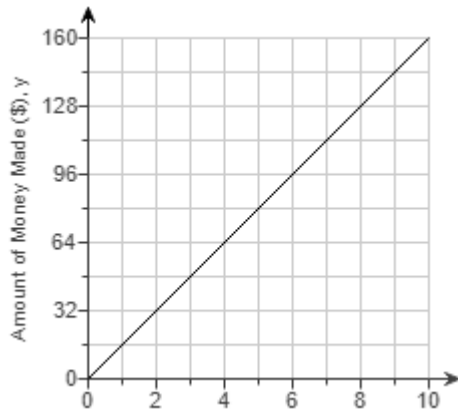**7.** What is the slope of the line on the graph?

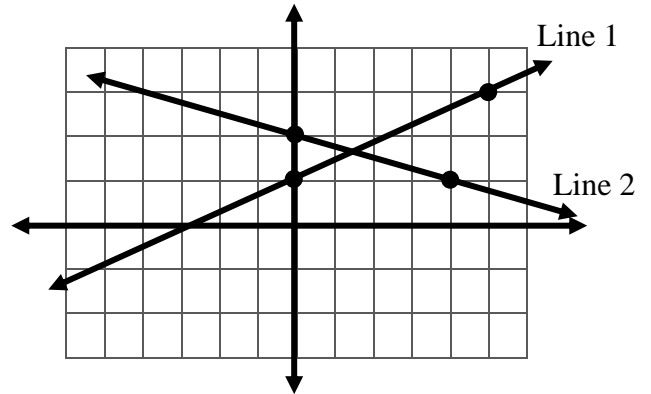**8.** Draw the following graphs:

a) Proportional Relationship

b) Not Proportional Relationship

9. The amount of money McDonald's makes, y, selling combo meals is modeled by the equation $y = 11x$, where x is the number of meals. The relationship of the amount of money Burger King makes is shown on the graph. Who makes more money?

10. What is the slope, y-intercept, and equation of the lines shown?

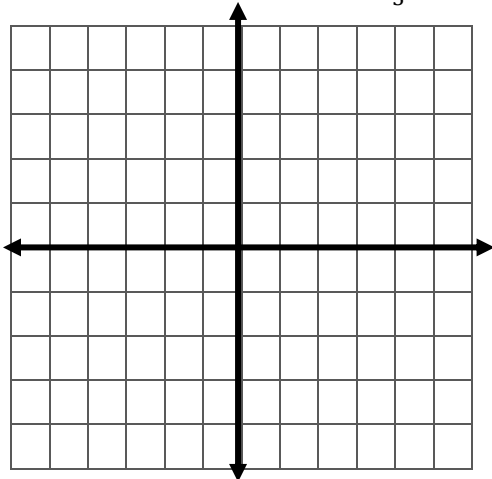Line 1

Line 2

11. Draw a graph of the following equations:
a) $y = 2x - 2$ b) $y = -x + 3$

c) $y = \frac{2}{3}x + 1$ b) $y = -\frac{4}{5}x - 3$

12. A group of friends go to the movies. They share a bucket of popcorn that costs $12. Each movie ticket costs $17.
a) Write an equation to represent total cost of going to the movies, where y is the cost and x is the number of people. Assume they always share a bucket of popcorn for $12.

b) If they spent $97 total, how many people went to the movies?

13. Given the following equations, what is the slope and y-intercept?
a) $y = 4x - 2$ b) $y = \frac{5}{9}x + 7$

c) $y = -7x + 4$ d) $y = -\frac{3}{8}x - \frac{4}{5}$

e) $y - 2x = 6$ f) $2y + 4x = 12$

14. Draw a graph to represent the following slopes:
a) Positive   b) Negative   c) Zero   d) Undefined