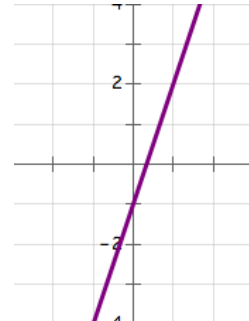# Review for Test #4 - Lines and Linear Equations

Name _____ Class _____

1.) What is the slope of a line that passes through (-4,5) and (6,3)?

2.) What is the slope and the y-intercept of a line whose equation is $y = -\dfrac{1}{2}x + 7$?

3.) Write $-x + 4y = 12$ in $y = mx + b$ format.

4.) What is the slope of the line in the accompanying diagram?

5.) Berad filled a swimming pool with water. When he started, the pool already contained 800 gallons of water. The table below shows the number of gallons of water in the pool after filling it for h hours. Which equation can be used to determine the number of gallons, g, of water in the pool after h hours?

Number of hours (h)	Gallons of water (g)
0	800
1	1000
2	1200
3	1400
4	1600

(A) $g = 200h$ (C) $g = 800h + 200$

(B) $g = 800h$ (D) $g = 200h + 800$

6.) You want to hire a DJ for a birthday party that you are holding. He charges an initial fee of $100 and then charges $35 per hour.

a.) Write an equation for the total cost, y, of hiring the DJ for x hours, including the initial fee.

b.) What is the y-intercept in your equation? _____

Explain what information the y-intercept tells you about this situation.

c.) What is the slope of the line in your equation? _____

Explain what information the slope tells you about this situation.

7.) Isolate y in the equation below to put it in slope-intercept form. Then, graph the line on the set of axes provided.

$4y + 3x = 8$

8.) Find the equation of a line that pass a slope of $\dfrac{2}{3}$

and passes through the point $(6,1)$. Graph the line on the set of axes provided.
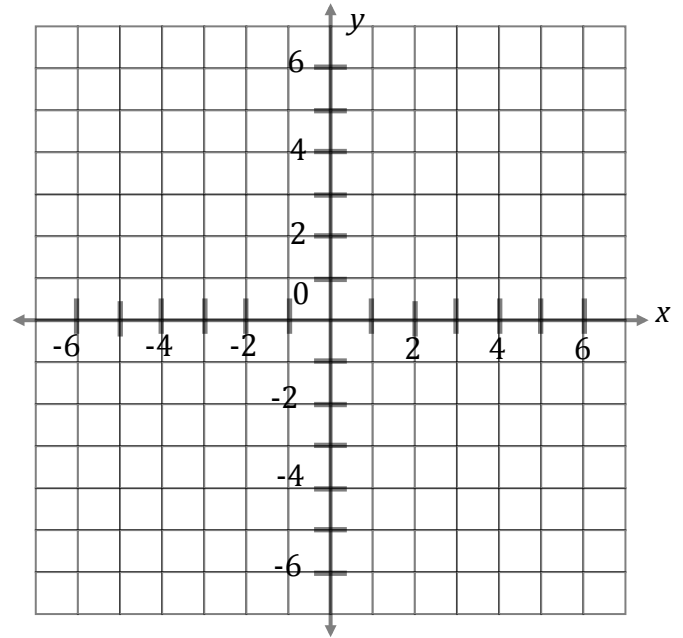
9.) Find the equation of a line that passes through the points (4,5) and (8,7). Graph the line on the set of axes provided.

10.) The table below shows the number of chaperones, *y, needed for a certain number of students at a dance.*

Number of Students (x)	36	54	72	108
Number of Chaperones (y)	4	6	8	12

a.) Write an equation that represents the relationship between the number of chaperones needed and the number of students attending a dance.

b.) How many chaperones will be needed for a dance that has 198 students?

11.) Kayla and Rachel decide to join a gym. At this gym, there is a membership fee, plus a monthly fee. Kayla goes for 5 months and pays $195 and Rachel goes for 7 months and pays $243.

   a.)   Write an equation to relate the cost, C, to the number of months, m.

   b.)   What is the monthly fee? _____

   c.)   What is the initial fee? _____

   d.)   Find the amount they would have to pay after 12 months.