

**Lesson Context**

BIG PICTURE of this UNIT:	<ul style="list-style-type: none"> <li>mastery with algebraic skills to be used in our work with linear functions and equations.</li> <li>understanding various properties of basic functions and linear equations</li> <li>how do manipulate equations with more then one variable?</li> </ul>		
CONTEXT of this LESSON:	<p>Where we've been</p> <p>We have been working in detail with linear equations with the line factory logo and with the POW # 4.</p>	<p>Where we are</p> <p>Today we continue to focus on linear equations, especially when we can't see the "b" value.</p>	<p>Where we are heading</p> <p>How can I use my knowledge of linear relationships to develop linear functions?</p>

**Lesson Objectives: Review for Quiz on Wednesday**

**Task 1:** Review working with equations of linear relations written in the form of  $y = mx + b$

**Task 2:** A Context Problem

**Task 3:** Working with equations of linear relations written in the form of  $y - y_1 = m(x - x_1)$

**Task 1: Warm Up**

**Exercise #1 – Solve for a variable**

Solve the following equation for b.  $-12 = -\frac{1}{4}(-3) + b$

**Exercise #2 – Given slope & point**

(a) Determine the equation of the line that passes through A(3,-2) and has a slope of -2. Write the equation in point-slope form then in slope-intercept form.

(b) Determine the equation of the line that passes through the point B(4,-2) and has a slope of  $\frac{2}{3}$ . Write the equation in point-slope form then in slope-intercept form.

**Exercise #3 – Given 2 points:**

(a) Determine the equation of the line that passes through A(3,-2) and B(-1,-6). Write the equation in point-slope form then in slope-intercept form.

(b) Determine the equation of the line that passes through the point A(-1,2) and B(4,-2). Write the equation in point-slope form then in slope-intercept form.

**Task 2: A Context Problems**

1. There are three competing companies, that want to sell you internet service. Their information is listed below.

Company A: They give you 300 LE as a start up Bonus, and you pay 200 LE per month.

Company B: 400 LE Start up Fee, and you pay 300 LE every 5 months.

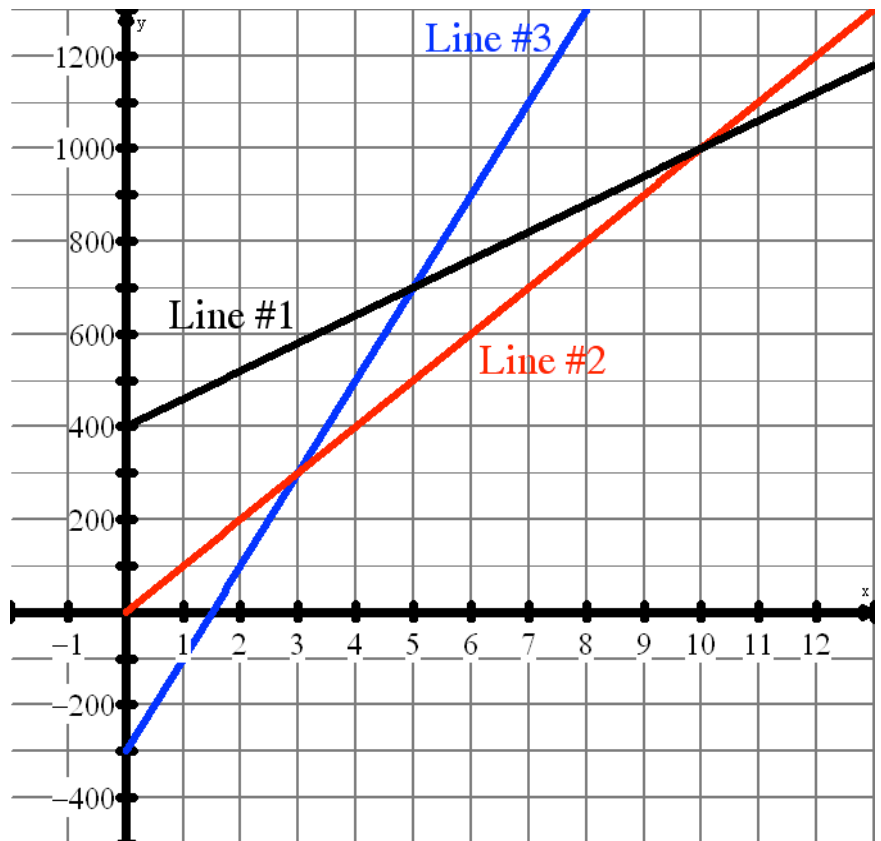
Company C: No Start up fee, but you pay 100 LE a month.

a. Match each company with the graph that it represents. Explain your reasoning.

b. Which company should you choose if you are only using the service for 5 months?

c. Which company should you choose if you are only using the service for 10 months?

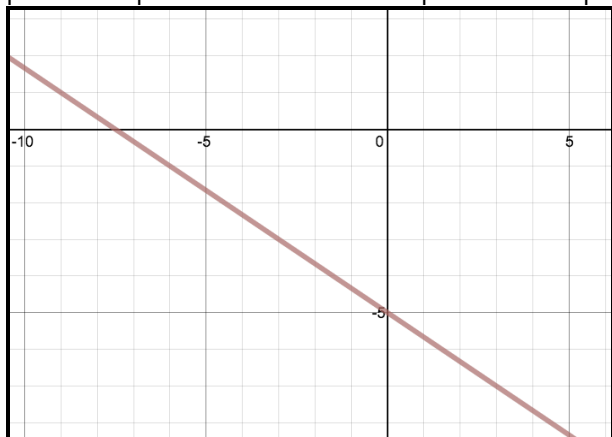
d. If you only have 800 LE, which company would you use and why?



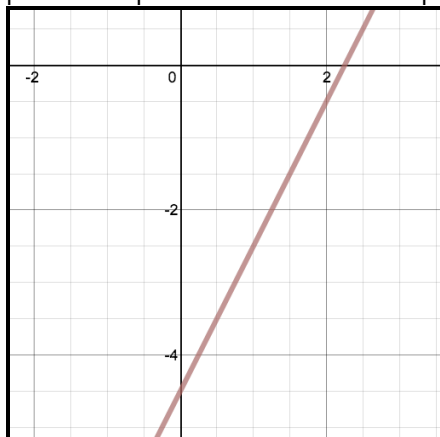
**Task 3: Continued Review**

**Review Exercise #1 – Given a Graph:**

(a) Determine the equation of the line that is shown in the diagram. Write the equation in point-slope form then in slope-intercept form.

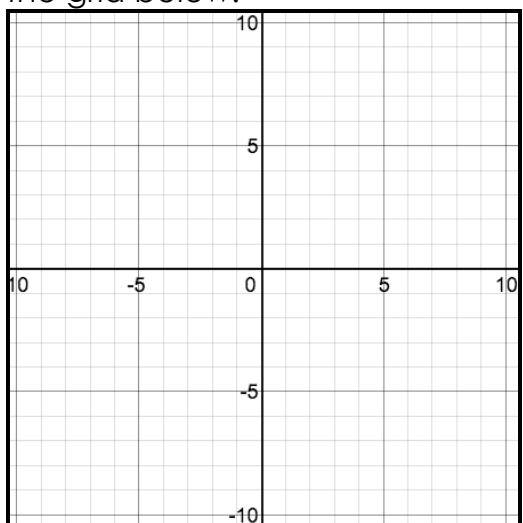


(b) Determine the equation of the line that is shown in the diagram. Write the equation in point-slope form then in slope-intercept form.



**Review Exercise #2 – Prepare a Graph:**

(a) Graph the linear equation  $y = \frac{3}{2}x - 3$  on the grid below.



(b) Graph the linear equation  $y + 4 = \frac{3}{4}(x - 6)$  on the grid below.

