> "Our greatest weakness lies in giving up. The most certain way to succeed is always to try just one more time."
>
> Thomas A. Edison
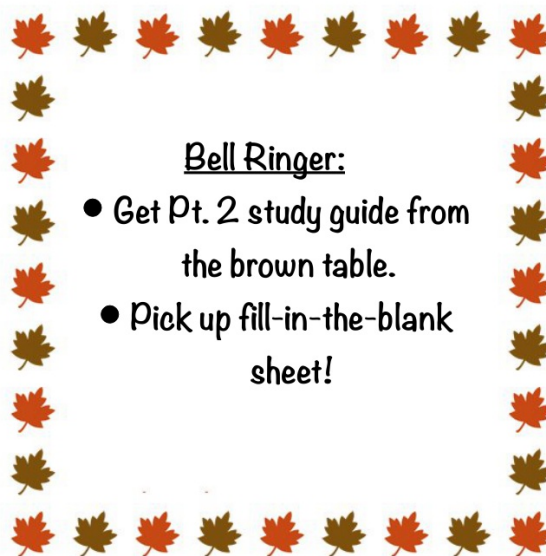
Bell Ringer:

- Get Pt. 2 study guide from the brown table.
- Pick up fill-in-the-blank sheet!

Johnson, Jacob	White, Aja	Baldree, Michael	Saunders, Ann	Gutierrez, Carlos	Rupani, Deshna	Marks, Andre
Mckinnon, Kaliyah	Muensida, Ailada	Macon, Jalen	Murchison, Ashja	Korshoff, Madelyn	Arriaran, Andre	Taylor, Erica
Orr, Roderick	Johnson, Trevor	Strickland, Madalyn	Kiernon, Jackson	Moon, Asia	Barton, Johnathan	Johnson, Antonio
			Ramos, Alexandro	Shannon, Derrick	Stewart, Cody	

Lesson 3-6 Write Linear Equations

1. Which of the following equations is in point-slope form?
     A. $x - 8 = 7(y - 1)$ B. $y = 6x - 2$
     C. $2x - 3y = 6$ D. $y - 2 = 3(x - 5)$

2. Write an equation in point-slope form for the line that passes through (3, 5) with a slope of 1.
     A. $y - 5 = 1(x + 3)$ B. $y - 5 = -(x - 3)$
     C. $y + 5 = 1(x - 3)$ D. $y - 5 = 1(x - 3)$

3. Write an equation in point-slope form for the line that passes through (6, –4) with a slope of –4.
     A. $y + 4 = -4(x + 6)$ B. $y + 4 = 4(x - 6)$
     C. $y + 4 = -4(x - 6)$ D. $y - 4 = -4(x - 6)$

4. Write an equation in slope-intercept form for the line that passes through (2, 4) and (4, 5).
     A. $y = x + 3$ B. $y = x - 3$ C. $y = x - \frac{1}{3}$ D. $y = \frac{1}{2}x + 3$

5. The cost of taking art classes is shown in the table. Write an equation in point-slope form to represent the cost y of attending x art classes.

Number of Classes	Cost ($)
5	75
10	150

     A. $y - 75 = 15(x - 5)$ B. $y - 15 = 75(x - 5)$ C. $y - 75 = 5(x - 15)$ D. $y - 5 = 15(x - 75)$

4.) What form? SLOPE-INTERCEPT!!
(2,4) & (4,5).

y2-y1/x2-x1

5-4/4-2 = 1/2

m=1/2

4=1/2(2)+b

2/2=1

4=1+b
-1   -1

b=3

y=1/2x+3

3) What form? POINT SLOPE!!! (6, -4) with a slope of -4

y-y1=m(x-x1)

y-(-4)=-4(x-6)

Slope-Intercept Form (pg.210)

       -The <u>x-intercept</u> of a line is the x-coordinate of the point where the graph crosses the x-axis.

- To find the <u>x</u> - <u>intercept</u>, let y = <u>0</u>
- To find the <u>y</u> - <u>intercept</u>, let x = <u>0</u>

Standard Form (pg. 211)

<u>A</u> x + <u>B</u> y = <u>C</u>

Unit – 6 – Chapter 3 – Lesson 6
Write Linear Equations

Point-Slope Form of a Linear Equation (pg.222)

Equation:

y – _____ = m (x – _____)

    ** The point-slope form of a linear equation is tied DIRECLY to the definition of slope. $\frac{y_2-y_1}{x_2-x_1} = m$

**You can write an equation of a line in <u>point</u> - <u>slope</u> form when you are given the <u>slope</u> and the <u>coordinates</u> of a point on the line that is NOT the <u>y</u> - <u>intercept</u>.

Systems of Equations (pg. 234)

Two or more equations with the same set of variables are called a ___System___ ___of___ ___equations___ .

Number of Solutions (pg. 236)

- If the lines ___intersect___, there is ___ONE___ solution.

- If the lines are ___parallel___, there is ___NO___ solution.

- If the lines are the ___same___, there is an ___infinite___ ___number___ ___of___ solutions.

Slopes & Intercepts(pg.237):

- Different slopes & y-intercepts, there is ___one___ solution, and only ___one___ solution.

- Same slope & different y-intercepts, there is ___NO___ solution.

- Same slope & same intercept, there is an ___infinite___ number of solutions.

Solve a System Algebraically (pg.244)

___Substitution___ is an algebraic model that can be used to find the exact solution of a system of equations.

Slope-Intercept & Standard forms:

**Sometimes one or both equations are written in standard form.

When solving a system by ___substitution___, one of the equations should be solved for either x or y.

2. Peter makes $6 an hour raking leaves and $8 an hour babysitting. Last week, he earned $100 working 15 hours. Solve the system by substitution to find the number of hours he working babysitting and raking leaves.

$$r + b = 15$$

$$6r + 8b = 100$$

A. Raking leaves: 8 h
   Babysitting: 6 h
B. Raking leaves: 6 h
   Babysitting: 8 h
C. Raking leaves: 10 h
   Babysitting: 10 h
D. Raking leaves: ~~5~~ h 10 h
   Babysitting: ~~10~~ h 5 h