

Name: _____
Date: _____
Class: _____

Algebra
Unit 3
HW 3-7

1) A solar lease customer built up an excess of 6,500 kilowatt hours (kwh) during the summer using his solar panels. When he turned his electric heat on, the excess began to be used up at a rate of 50 kilowatt hours per day.

- (a) If E represents the excess left and d represents the number of days since the heat has been turned on, write an equation for E in terms of d .
- (b) How much of the excess will be left after one month (use a month length of 30 days)?

(c) If the heat will need to be turned on for 5 months, will the excess be enough to last through this time period? Justify your answer.

2) As Evin is driving her car, she notices that after 1 hour her gas tank has 7.25 gallons left and after 4 hours of driving, it has 3.5 gallons of gas left in it.

- (a) Represent this information as two coordinate pairs in the form (h, g) , where h is the number of hours driven and g is the gallons of gas left.
- (b) Find the slope between these two points. Using proper units, interpret this slope.

(c) Assuming the relationship between h and g is linear, find an equation for g in terms of h .

(d) According to this equation, after how many hours of driving would Evin run out of gas?

3) Is $(2, 16)$ a solution to $y \geq 3x + 10$?

4) Is $(-6, 5)$ a solution to $y \geq -\frac{1}{3}x + 5$?

5) Graph $y < -2x + 4$, state one point that is in the solution set, and state one point that is not in the solution set.

6) Graph $x - 2y \leq 6$

7) Graph the solution set to each of the following inequalities.

(a) $y \leq 4$

..

(b) $x > 1$

8) Graph both and state the point of intersection if one exists:

$$6x - 4y = 12 \quad \text{and} \quad 6y - 9x = 18$$