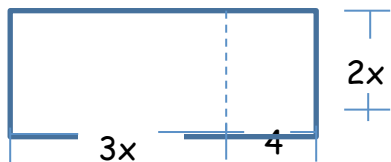# Weekly Review #17

Name: _____ Class: _____

Due Date #1: **Tues. 2/10** Due Date #2: **Fri. 2/13** (Regardless of whether you have class.)

1.) Write and simplify an expression modeling the area of the rectangle.

$2x$

$3x$ 4

(A) $5x + 4$ (C) $5x^2 + 8x$

(B) $6x^2 + 8x$ (D) $14x^2$

2.) Solve the equation: $4x - 3(x + 2) = 5(4 - x)$

3.) You are filling a pot with water. The water level in the pot is rising at a rate of 2 inches per minute. The pot is already 3 inches full. The equation $y = 2x + 3$ models the depth of the water after x minutes. What is the depth of the water after 3 minutes?

(A) 3 inches   (C) 7 inches

(B) 6 inches   (D) 9 inches

4.) Which inequality is equivalent to $x - 5 \leq 3x + 7$?

(A) $x \geq 6$ (C) $x \leq -6$

(B) $x \geq -1$ (D) $x \geq -6$

5.) What is the first (lower) quartile of the following data set?   6, 8, 4, 10, 9, 7, 8, 7

(A) 6.5   (C) 7.5

(B) 8.5   (D) 7

6.) Solve the following system of equations.

$$2x + 3y = 8$$
$$4x = -6y + 16$$

7.) The table below shows the relationship between total fat grams and the total calories in a selection of fast food sandwiches.

Total Fat (g)	9	13	21	30	31	32	34
Total Calories	260	320	420	530	560	580	590

The linear regression equation that models this data is $y = 13x + 143$. Provide an interpretation of the slope of this model.

8.) What is the equation of the line passing through the points (7,9) and (21,3)?

9.) If $f(x) = \dfrac{1}{3}x - 9$, then which statement is always true? **(Hint: draw a sketch of it after you graph it on your graphing calculator.)**

(A) $f(x) < 0$

(B) $f(x) > 0$

(C) If $x < 0$, then $f(x) < 0$

(D) If $x > 0$, then $f(x) > 0$

10.) Which of the following implies that your data set has a strong negative linear correlation?

(A) r = -0.25

(B) r = 0

(C) r = -0.5

(D) r = -0.82