Weekly Review #20

Name: _____ Class: _____

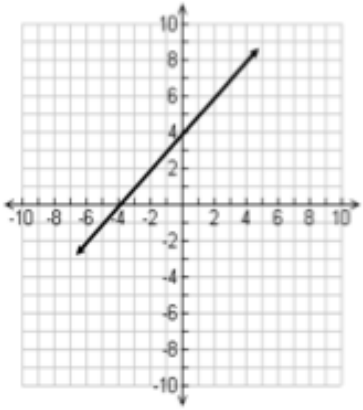
Due Date #1: **Tues. 3/17** Due Date #2: **Fri. 3/20** (Regardless of whether you have class.)

1.) Internet Company A charges $5 per month plus $0.05 per minute, x. Internet Company B charges $0.10 per minute, but does not charge a start-up fee like Company A does. Which function represents the difference in cost between Company A and Company B?

(A) $f(x) = 5x - 0.05$ (C) $f(x) = 0.05x - 5$

(B) $f(x) = 5x + 0.05$ (D) $f(x) = -0.05x + 5$

2.) Paul compared the slope of the function shown below to that of a linear function with an x-intercept of 4 and a y-intercept of -2. What is the slope of the function with the smaller slope?



(A) -1 (B) -½ (C) ½ (D) 1

3.) West Fairfield High School interviewed 1500 students to determine if they preferred ice skating, skiing, or snowboarding. The results are shown in the relative frequency table below.

	Ice Skating	Skiing	Snowboarding
Freshmen	.05	.08	.15
Sophomores	.04	.07	.09
Juniors	.07	.08	.10
Seniors	.07	.09	.11

How many more juniors than sophomores participated in the survey?

(A) 75 (B) 300 (C) 375 (D) 675

4.) Bobby noticed that there are multiple combinations of nickels and dimes that add up to $0.75.
Let x be the number of nickels.
Let y be the number of dimes.
What is the domain where y is a function of x and the total value of the coins is $0.75?

(A) {0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15}

(B) {1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15}

(C) {0, 1, 3, 5, 7, 9, 13, 15}

(D) {1, 3, 5, 7, 9, 11, 13, 15}

5.) The table shows the cost of a coffee based on the number of extras ordered. Which function represents the cost of a coffee with n extras added on?

Number of Extras (n)	Cost (C)
1	$2.00
2	$2.75
3	$3.50
4	$4.25

(A) $C(n) = 0.75n + 1.25$

(B) $C(n) = 0.75n + 2$

(C) $C(n) = 2n + 0.75$

(D) $C(n) = 0.75n$

6.) There were originally 5 trees in the nursery. Each year, the Mitchells planted the same number of trees. In the 25th year, there were 205 trees. Which function, b(n), can be used to determine the number of trees in the nursery in any particular year?

(A) $b(n) = 5n$

(B) $b(n) = 8n + 5$

(C) $b(n) = 205 / 25n + 5$

(D) $b(n) = 25n - 5$

7.) A new sports car sells for $35,000. The value of the car decreases by 18% annually. How much will the car be worth in 5 years? Round to the nearest cent.

8.) Express $\frac{\sqrt{84}}{2\sqrt{3}}$ in simplest radical form.

9.) Given the sequence {6, 16, 26, 36, …}, write an explicit formula and a recursive formula for this sequence.

10.) Solve algebraically for all values of x: $\frac{3}{x+5} = \frac{2x}{x^2-8}$