

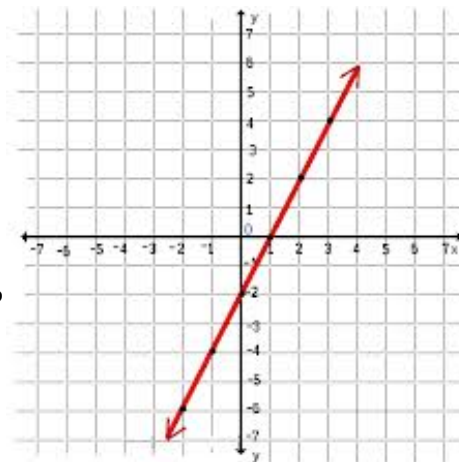
Weekly Review #18

Name: _____ Class: _____

Due Date #1: **Tues. 2/24** Due Date #2: **Fri. 2/27** (Regardless of whether you have class.)

- 1.) The value in dollars, $v(x)$, of a certain car after x years is represented by the equation $v(x) = 32,000(0.84)^x$. To the *nearest dollar*, how much more is the car worth after 3 years than after 4 years?

- (A) \$3,035 (C) \$18,967
(B) \$13,033 (D) \$15,932



- 2.) Which function has the same y -intercept as the graph shown?

- (A) $y = \frac{10 - 3x}{5}$ (C) $4y + x = 8$
(B) $14 + 7y = 3x$ (D) $y + 3 = -2x$

- 3.) Trey is given a rectangular piece of paper. If the length of the piece of paper is represented by $3x - 7$ and the width is represented by $2x - 1$, then the paper has a total area represented by

- (A) $5x - 8$ (C) $10x - 16$
(B) $6x^2 - 17x + 7$ (D) $6x^2 + 7$

- 4.) Connor wants to attend the town carnival. The price of admission to the carnival is \$3.75 and each ride costs an additional 87 cents. If he can spend at most \$14.00 at the carnival, which inequality can be used to solve for r , the number of rides Connor can go on, and what is the maximum number of rides he can go on?

- (A) $0.87 + 3.75r \leq 14.00$; 3 rides
(B) $0.87 + 3.75r \leq 14.00$; 4 rides
(C) $3.75 + 0.87r \leq 14.00$; 11 rides
(D) $3.75 + 0.87r \leq 14.00$; 12 rides

5.) When factored complete, the expression $q^4 - 16$ is equivalent to

(A) $(q^2 + 4)(q^2 - 4)$ (C) $(q^2 + 4)(q + 2)(q - 2)$

(B) $(q^2 - 4)(q^2 - 4)$ (D) $(q + 2)(q - 2)(q + 2)(q - 2)$

6.) Find the first 4 terms of the sequence.

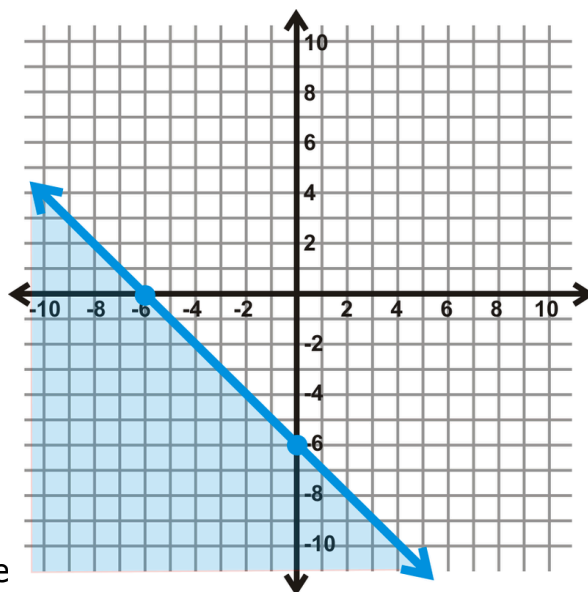
$$t_{n+1} = (t_n)^2 + 3, \text{ for } t_1 = -2$$

7.) A gardener is planting two types of trees: Type A is two feet tall and grows at a rate of 16 inches per year. Type B is three feet tall and grows at a rate of 11 inches per year. Algebraically determine exactly how many years it will take these trees to be the same height.

The graph of an inequality is shown. Use the graph to answer questions 8 – 10.

8.) Write the inequality represented by the graph.

9.) On the same set of axes, graph the inequality $3y + 12 < x$.



10.) The two inequalities graphed on the set of axes form a solution set. $(-1, 8)$ is in the solution set for this system of inequalities. Explain your reasoning.