

Name: _____ Algebra IB Teacher: _____

Unit 3 Enrichment

Directions: Answer each of the questions in this packet and *show your work*. You may use your notes, ask questions, work with another student, or go to the math lab to get help on this. You will be given a quiz based on these questions in which you will have to explain or interpret your answers. You may want to write notes on each problem as to what you did to get your answer.

1.) Eric works 32 hours each week. He earns \$14.15 an hour. Which is the **closest** to the amount of money Eric will earn if he works for 46 weeks?

A) \$16,800

B) \$18,000

C) \$21,000

D) \$22,500

2.) One model of microwave usually sells for \$214. It is on sale for 35% off. The sales tax on it is 6%. Which is the **closest** estimate to the final cost?

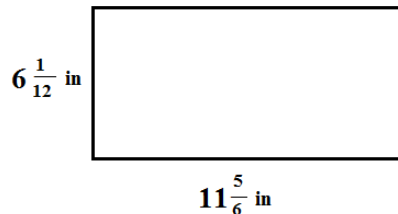
A) \$130

B) \$140

C) \$150

D) \$160

3.) A rectangular tile has the dimensions shown below.



A total of 408 of these tiles were used for the floor of a room. Which is the closest estimate to the area of the floor in square feet?

A) 180 sq ft

B) 200 sq ft

C) 2,200 sq ft

D) 2,400 sq ft

4.) Look at the pattern below:

7, 13, 19, 25, 31 ...

Which expression represents this pattern algebraically?

A) $n + 6$

B) $n - 6$

C) $6n + 1$

D) $6n - 1$

5.) Kara bought a new car and had to take out a car loan. The table below shows the amount Kara still owes (y) after a certain number of months (x).

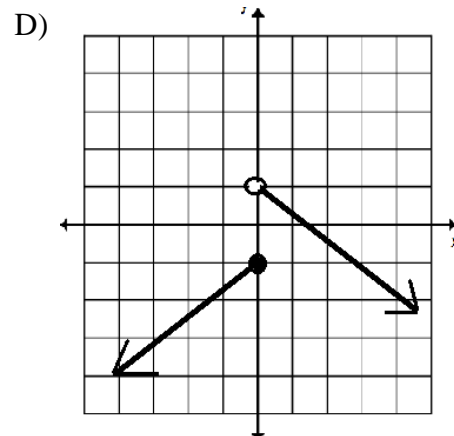
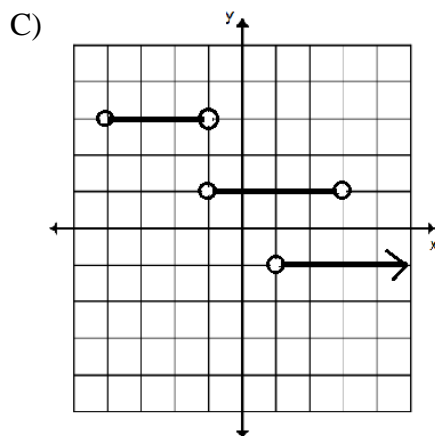
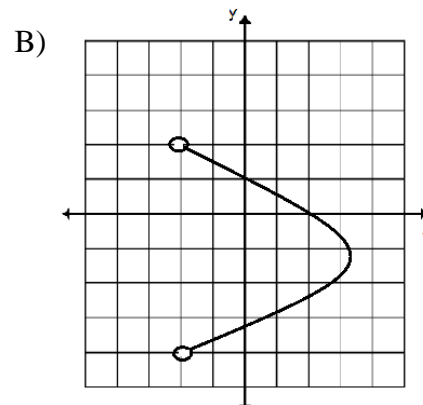
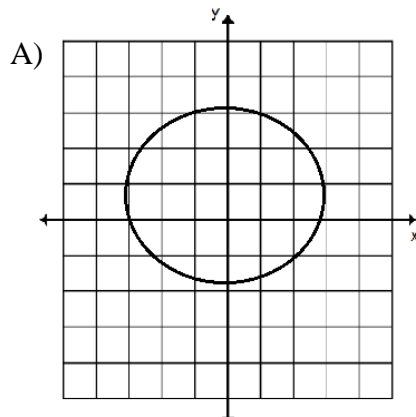
Money Kara Owes for her Loan

Months	Money Owed
4	\$7,700
8	\$6,800
12	\$5,900
16	\$5,000

Which of the following equations represents the amount Kara still owes?

- A) $y = x - 900$ B) $y = -900x + 7,700$
 C) $y = -225x + 7,700$ D) $y = -225x + 8,600$

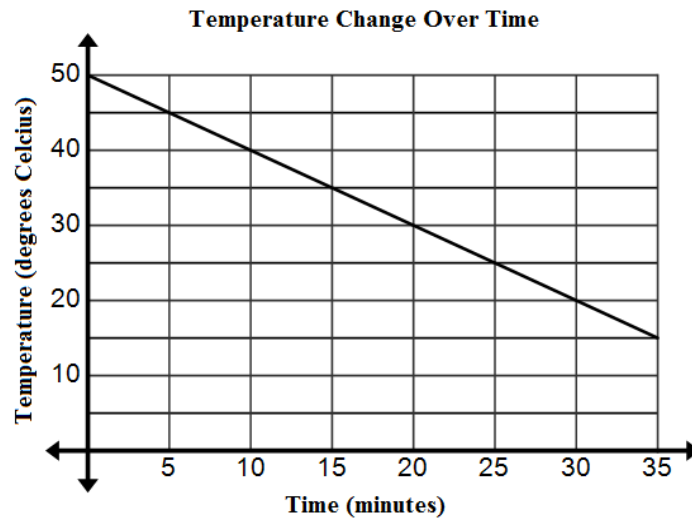
6.) Which graph represents a function?



7.) A balloon is released into the air at an initial height of 25 meters, and rises at a rate of 1.4 meters per second. How long will it take the balloon to reach a height of 80 meters?

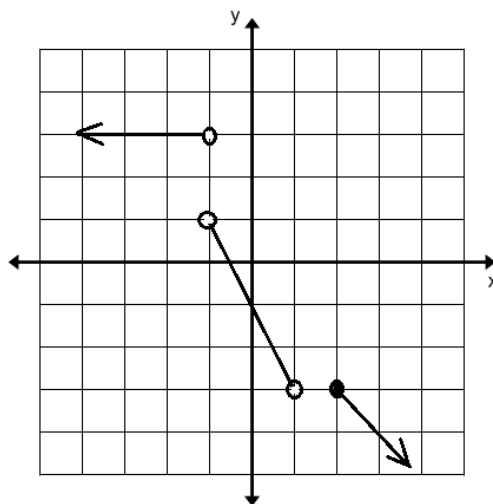
- A) 3 seconds B) 39 seconds C) 57 seconds D) 75 seconds

8.) What is the rate of change shown on the graph below?



- A) -20°C per minute B) -10°C per minute
 C) -5°C per minute D) -1°C per minute

Use the graph below to answer #9 and #10.



9.) Which of the following values is in the domain of the graph above?

- A) -7 B) -1 C) 1 D) 1.5

10.) Which of the following values is **not** in the range of the graph above?

- A) 3 B) 1 C) -3 D) -6