

Unit 7 Enrichment Assignment

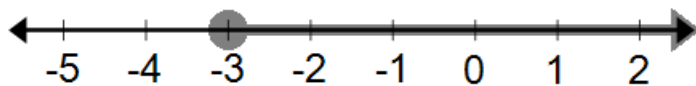
DIRECTIONS: Answer each of the questions in this packet and **SHOW YOUR WORK**. You may use your notes, ask questions, work with another student, or go to the math lab to get help on this. You will be given a quiz based on these questions in which you will have to explain or interpret your answers. You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

Use this space to show your work

1.) A baseball team had \$1,000 to spend on supplies. The team spent \$185 on a new bat. New baseballs cost \$4 each. The inequality $185 + 4b \leq 1,000$ can be used to determine the number of new baseballs (b) that the team can purchase. Which statement about the number of new baseballs that can be purchased is true?

- A. The team can purchase 204 new baseballs.
- B. The minimum number of new baseballs that can be purchased is 185.
- C. The maximum number of new baseballs that can be purchased is 185.
- D. The team can purchase 185 new baseballs, but this number is neither the maximum nor the minimum.

2.) The solution set of an inequality is graphed on the number line below.



The graph shows the solution set of which inequality?

- A. $-2x - 5 < 1$
- B. $-2x - 5 \leq 1$
- C. $-2x - 5 > 1$
- D. $-2x - 5 \geq 1$

3.) Anna burned 15 calories per minute running for x minutes and 10 calories per minute hiking for y minutes. She spent a total of 60 minutes running and hiking and burned 700 calories. The system of equations shown below can be used to determine how much time Anna spent on each exercise.

$$15x + 10y = 700$$

$$x + y = 60$$

What is the value of x , the minutes Anna spent running?

- A. 10
- B. 20
- C. 30
- D. 40

Use this space to show your work

4.) A theme park charges \$52 for a day pass and \$110 for a week pass. Last month, 4,432 day passes were sold and 979 week passes were sold. How much more money was made on day passes than week passes?

- A. \$230,464
- B. \$107,690
- C. \$122,774
- D. \$3,453

5.) Jeff's restaurant sells hamburgers. The amount charged for a hamburger, h , is based on the cost for a plain hamburger plus an additional charge for each topping, t , as shown in the equation:

$$h = 0.60t + 5$$

What does the number 5 represent in the equation?

- A. The number of toppings
- B. The cost of a plain hamburger
- C. The additional cost for 1 topping
- D. The cost of a hamburger with 1 topping

6.) Tim's scores in the first 5 times he played a video game are listed below.

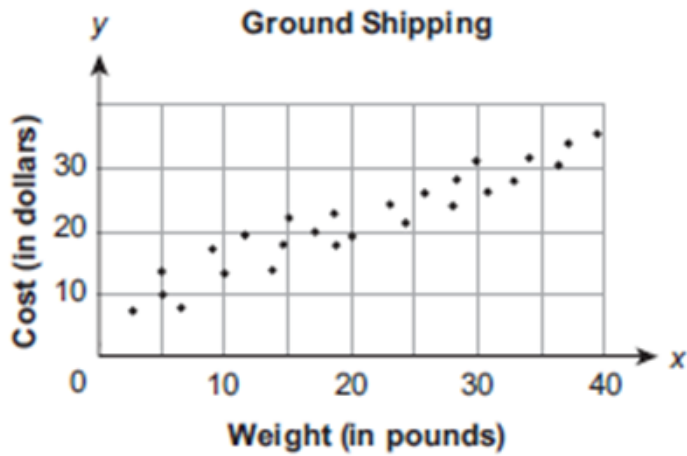
4,526 4,599 4,672 4,745 4,818

Tim's scores follow a pattern. Which expression can be used to determine his score after n times he played the video game?

- A. $73(n + 4,453)$
- B. $4,526n$
- C. $73n + 4,453$
- D. $4,453n + 73$

Use this space to show your work

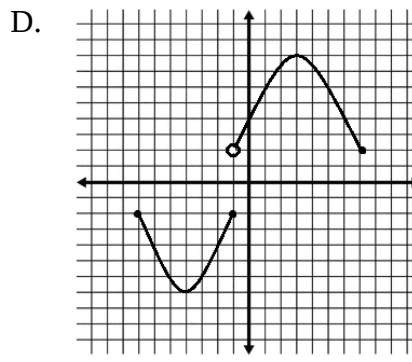
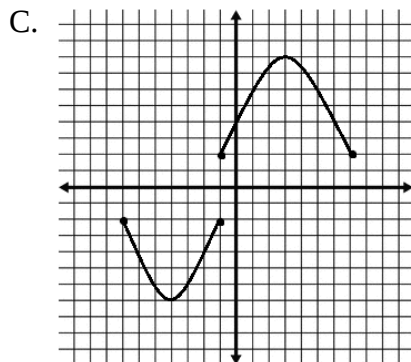
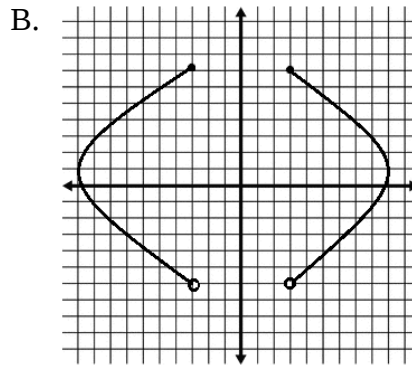
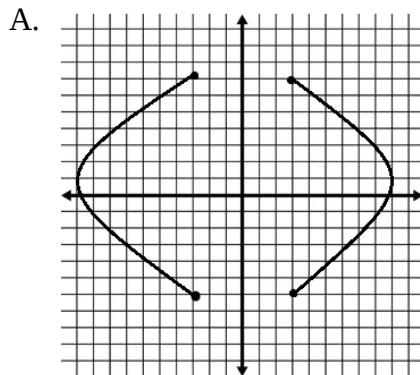
7.) The scatterplot below shows the cost, y , of ground shipping packages from Harrisburg, PA to Minneapolis, MN, based on the package weight, x .



Which equation **best** describes the line of best fit?

- A. $y = 0.68x + 6.61$
- B. $y = 0.68x + 2.32$
- C. $y = 0.37x + 1.57$
- D. $y = 0.37x + 10.11$

8.) Which graph below represents a function?



9.) The Health Club offers a silver membership and a gold membership. The table contains information about the one-time registration fee and monthly fee for each membership.

Membership	Registration Fee	Monthly Fee
Silver	\$0	\$78
Gold	\$320	\$38

After how many months is the gold membership a better value than the silver membership?

- A. 8 months B. 7 months C. 9 months D. 2 months

10.) Paul is looking at two vacation packages while planning a trip to Cancun, Mexico. In the first vacation package, round-trip airfare costs \$769, and it costs \$137 per night to stay at the resort. In the second vacation package, it costs \$497 per night to stay in the resort and \$262 for round-trip airfare.

Let x represent the number of nights spent at the resort, and let y represent the total cost of the trip. Which system of equations could be used to find how many nights Paul needs to stay at either resort so that both vacation packages have the same cost?

A. $y = 262x + 769$
 $y = 137x + 497$

B. $y = 137x + 769$
 $y = 497x + 262$

C. $y = 137x + 262$
 $y = 769x + 497$

D. $y = 769x + 137$
 $y = 262x + 497$