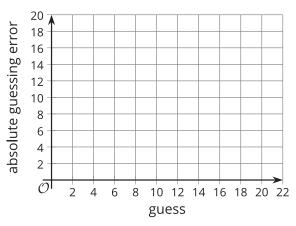


Lesson 13 Practice Problems

1. A group of ten friends played a number guessing game. They were asked to pick a number between 1 and 20. The person closest to the target number wins. The ten people made these guesses:

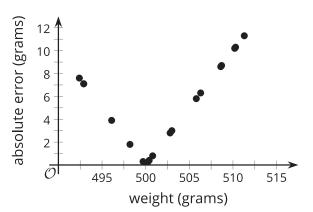
guess	2	15	10	8	12	19	20	5	7	9
absolute guessing error										

- a. The actual number was 14. Complete the table with the absolute guessing errors.
- b. Graph the guess and absolute guessing errors.
- c. Is the absolute guessing error a function of the guess? Explain how you know.



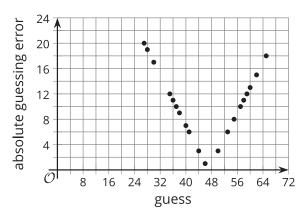
 Bags of walnuts from a food producer are advertised to weigh 500 grams each.
In a certain batch of 20 bags, most bags have an absolute error that is less than 4 grams.

Could this scatter plot represent those 20 bags and their absolute errors? Explain your reasoning.





3. The class guessed how many objects were placed in a mason jar. The graph displays the class results, with an actual number of 47.



Suppose a mistake was made, and the actual number is 45.

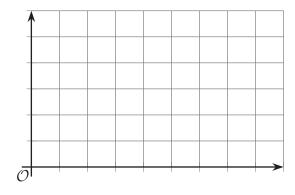
Explain how the graph would change, given the new actual number.

4. Function *D* gives the height of a drone *t* seconds after it lifts off.

Sketch a possible graph for this function given that:

$$0 D(3) = 4$$

$$0 D(10) = 0$$



(From Unit 4, Lesson 3.)

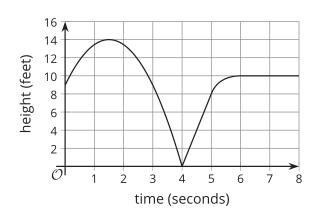
- 5. The population of a city grew from 23,000 in 2010 to 25,000 in 2015.
 - a. What was the average rate of change during this time interval?
 - b. What does the average rate of change tell us about the population growth?

(From Unit 4, Lesson 7.)



6. Here is the graph of a function.

Which time interval shows the largest rate of change?

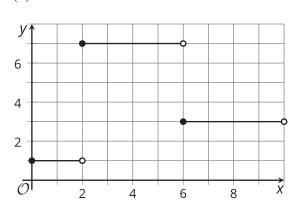


- A. From 0 to 2 seconds
- B. From 0 to 3 seconds
- C. From 4 to 5 seconds
- D. From 6 to 8 seconds

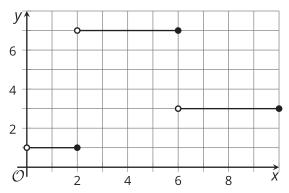
(From Unit 4, Lesson 7.)

7. Here are the graphs of L(x) and R(x).

L(x)



R(x)



- a. What are the values of L(0) and R(0)?
- b. What are the values of L(2) and the R(2)?
- c. For what x-values is L(x) = 7?
- d. For what *x*-values is R(x) = 7?

(From Unit 4, Lesson 12.)



8. Select **all** systems that are equivalent to this system of equations: $\begin{cases} 4x + 5y = 1 \\ x - y = \frac{3}{8} \end{cases}$

A.
$$\begin{cases} 4x + 5y = 1 \\ 4x - 4y = \frac{3}{2} \end{cases}$$

B.
$$\begin{cases} x + \frac{5}{4}y = \frac{1}{4} \\ x - y = \frac{3}{8} \end{cases}$$

$$C. \begin{cases} 4x + 5y = 1 \\ 5x - 5y = 3 \end{cases}$$

D.
$$\begin{cases} 8x + 10y = 2 \\ 8x - 8y = 3 \end{cases}$$

$$E. \begin{cases} x + y = \frac{1}{5} \\ x - y = \frac{3}{8} \end{cases}$$

(From Unit 2, Lesson 16.)