

OLSEN – ACCELERATED ALGEBRA UNIT 2 ACTIVITY 6 HOMEWORK

Name _____ Period _____

LESSON 6-2 HW: page 91, “LESSON 6-2 PRACTICE” problems 8 – 11 and page 96 “ACTIVITY 6 PRACTICE” problems 11 – 16.

8. <i>Also express domain and range in interval notation.</i>	9.
10.	11.
1. <i>Also express in interval notation.</i>	2. <i>Also express in interval notation.</i>
3.	4.
5.	6.

LESSON 6-3 HW: page 94, “LESSON 6-3 PRACTICE” problems 6 – 7 and page 96 “ACTIVITY 6 PRACTICE” problems 17 – 22.

6.	7. <i>Also express in interval notation.</i>
17.	18.
19. <i>Also express in interval notation.</i>	20. <i>Also express in interval notation.</i>
21.	22.

OLSEN – ACCELERATED ALGEBRA UNIT 2 ACTIVITY 6 HOMEWORK KEY

LESSON 6-1

LESSON 6-1 PRACTICE

- The independent variable is t , the number of minutes since the bath began, and the dependent variable is d , the depth of the bathwater, since the depth of the water depends on how many minutes the water has been running.
- Domain: {all real values of t : $0 \leq t \leq 12$ }; Range: {all real values of d : $0 \leq d \leq 8$ }
- Continuous; The function includes all real values of t between 0 and 12, inclusive, and all real values of d between 0 and 8, inclusive.
- (0, 0); the depth of the bathwater at time 0
- Relative maximum: 8; no relative minimum
- Absolute maximum: 8; greatest depth; absolute minimum: 0; least depth

ACTIVITY PRACTICE

- A
- D
- A
- All the points are connected, with no breaks, so it is continuous.
- (0, 4)
- Domain: $\{x: 0 \leq x \leq 9\}$; range: $\{y: 0 \leq y \leq 3\}$; It passes the vertical line test.
 - (0, 0)
 - Absolute minimum: 0; absolute maximum: 3
- Independent: minutes walking; dependent: yards left to walk
- Absolute minimum: 0; the least distance Jeff will have to walk to Mark's house; This distance is 0 when Jeff arrives. Absolute maximum: 2000; the greatest distance Jeff has to walk to Mark's house, which occurs after 0 minutes of walking
- None exist.
- (0, 2000); the distance Jeff has to walk to Mark's house at time = 0

LESSON 6-2

LESSON 6-2 PRACTICE

- Domain: all real numbers; range: $y \geq -3$; y -intercept: (0, -3)
- 3
- No maxima exist.
- The graph on the left has absolute minimum value -8 and absolute maximum value 7 because the graph does not extend beyond those points. The graph on the right does not have absolute maximum or absolute minimum values because the arrowheads indicate that the graph extends in both directions. It never reaches a highest or lowest point.
- $\{x: x \neq 0\}$
- $\{y: y \neq 0\}$
- There is no y -intercept.
- (0, 1)
- 1
- 9 and -3.8

LESSON 6-3

LESSON 6-3 PRACTICE

6. Independent: number of minutes; dependent: total cost; The total cost depends on the number of minutes.
7. Domain: $\{x \geq 0\}$ because number of minutes cannot be negative; Range: $\{y \geq 20\}$ because the least possible y -value is the cost for 0 minutes, and that cost is \$20.
17. the money raised
18. the amount that will be donated
19. $\{x \geq 0\}$; An amount of money raised cannot be negative.
20. $\{y \geq 250\}$; The least amount the organization will donate is \$250 (if they raise no money from the event).
21. Answers may vary. An after-school job pays \$5 per hour minus a one-time \$3 fee for a storage locker.
22. The absolute maximum and absolute minimum values are the same, because the y -value of every point on the line is the same.