$\qquad$

## Review 12.1

1. What is the domain and range of the relation shown in the table provided? Determine if the relation is a function.

Domain:

| $x$ | $y$ |
| :---: | :---: |
| 9 | 10 |
| 4 | -3 |
| 5 | 4 |
| 1 | 3 |

Range:

Function?
2. Determine whether the set of ordered pairs represents a function.

$$
\{(4,4),(2,7),(3,7),(2,5)\}
$$

3. Michelle ran from her middle school to home at a constant speed. She immediately turned around and ran back to school, but at a faster constant speed. Michelle ran along a straight path to and from the school. Which graph best represents Michelle's distance from her school over time?
A.

C.

B.

D.


Mark rode his bicycle home from school. The graph below shows Mark's distance from home over time.

Mark's Bicycle Ride Home

5. On what time interval is Mark stopped?

The graph below represents the total number of times a teenager eats a tatter tot over a 5 - day period.

## Tatter Tots Eaten


8. Write an equation that represents the total number of Tatter tots, T, eaten after, d, days.
4. On what time interval is Mark traveling at 8 mph ?
6. On what time interval is Mark traveling the fastest?
7. What is the slope of this line segment? Include the appropriate units in your answer.
9. If this trend continues, how many tatter tots will be eaten 10 days?

Find the slope of the line through the pair of points.
10. $(12,-9),(2,-19)$

Sketch the graph of each line.
11. $y=\frac{7}{2} x+4$

13. $\mathrm{x}=1$

12. $y=-\frac{2}{3} x+2$

14. $5 x-4 y=20$


Find the slope, $x$ - intercept, and $y$ - intercept of the following.
15. $3 x-2 y=10$

Name the x - and y - intercepts.
16. $y=-2$

Determine the y - intercept of each graph.
17. $x-8=-4 y$

Write the slope-intercept form of the equation of the line through the given point with the given slope.
18. through $(1,-3)$ and slope $=0$
19. through $(5,-2)$, slope $=\frac{1}{3}$

Write the slope-intercept form of the equation of the line through the given points.
20. through $(5,-2)$ and $(1,0)$
21. through ( 1,1 ) and ( $1,-1$ )
22. Smith spent $\$ 90$ on 15 coffee mugs.
A. Write an inequality that can be used to determine the maximum number of coffee mugs that Smith can buy with $\$ 50$.
B. What is the maximum number of coffee mugs that Smith can buy with $\$ 50$ ?
23. George rented a bike from Kim's Bikes. It cost $\$ 20$ plus an hourly rate. It cost George $\$ 39.50$ to rent the bike for 6 hours.
A. Write an inequality to find the maximum number of hours that George can rent the bike for if he has \$55 to spend.
B. What is the maximum number of hours that George can rent the bike for if he has $\$ 55$ to spend?

1. Domain $\{9,4,5,1\}$ Range $\{10,-3,4,3\}$ Function 2. Not a function 3. C
2. The first 15 minutes
3. 15 minutes to 20 minutes
4. 20 minutes to 30 minutes
5. $\frac{20}{1}$ Tatter Tots per Day
6. $T=20 d$
7. 200 Tatter tots
8. 1
9. 


12.

13.

14.

15. $m=\frac{3}{2}, \mathrm{~b}=-5, \mathrm{x}-\mathrm{int}=\frac{10}{3}$
16. no $x$-int, $b=-2$
17. $y=2$
18. $y=-3$
19. $y=\frac{1}{3} x-\frac{11}{3}$
20. $y=-\frac{1}{2} x+\frac{1}{2}$
21. $x=1$
22. A) $50 \geq 6 x$, B) 8 coffee mugs
23. A) $55 \geq 3.25 x+20$, B) 10 hours

