Name: _____ Date:_____ Period: _____

Unit 3 Study Guide/Practice Test

1. Jeremy drove $54\frac{1}{4}$ miles in 45 minutes. If he drove at a constant rate, what is his speed in miles per hour? (Hint: What fraction of an hour is 45 minutes?)

   His speed is _____mph.

2. The table below shows the cost for ordering a certain number of tacos. What is the value of x if the cost is proportional to the number of tacos ordered?

   x = _____

Cost, x	2	4	6	8
Tacos, y	$2.60	$5.20	$7.80	x

3. Determine the constant of proportionality in the linear function below.

Pants, x	10	11	12	13
Shoes, y	20	22	24	26

   Constant of proportionality: _____

4. Solve the proportion:

   $$\frac{3}{7} = \frac{n}{28}$$ n = _____

5. What is the solution to the proportion?

   $$\frac{3}{22} = \frac{6}{n}$$ n = _____

6. What is the constant rate of change of the graph?

   Constant rate of change: _____
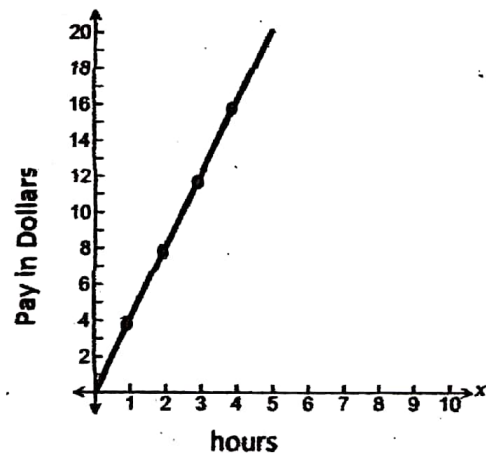
7. What is the rate of change (constant of proportionality) in the graph below?
   (Hint: Look at the change in the y values over the change in x values, then simplify.)
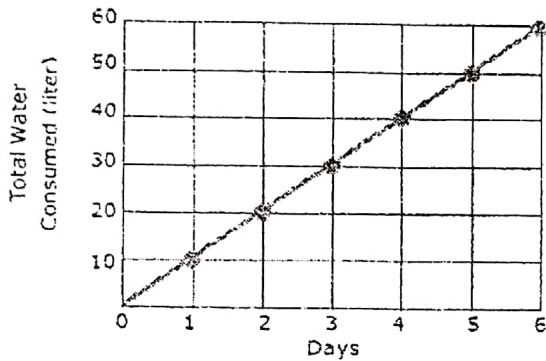
x	5	6	8	12
y	4	4.8	6.4	9.6

   Constant rate of change: _____

8. What is the constant rate of change of the table below?

x	1	2	3	4
y	2.2	4.4	6.6	8.8

Constant rate of change: _____

9. What is the rate of change of the line?

Constant rate of change:

_____

10. Jackson mows lawns in his neighborhood. The equation y = 12x represents the amount of money he earns for each lawn, x, that he mows. What is the constant of proportionality? _____

11. The mountain bikers were one quarter finished with their race at the 2 mile mark of the track. How long was their total ride going to be by the time they finished?

Their ride was _____ long.

12. The graph shows the amount of total liters of water consumed over days. Which statement about the graph is *not* true?
   a. The graph shows a proportional relationship.
   b. The graph shows a non-proportional relationship.
   c. The unit rate is $10 per day.
   d. The line is straight.
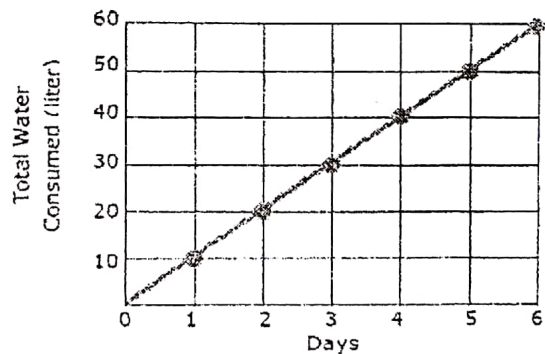
13. If it takes 16 gallons of gas to drive 320 miles, how many miles can be driven using 22 gallons of gas? _____ miles can be driven on 22 gallons of gas.

14. Maria can travel 195 miles in 3 hours. At this rate, how many miles can she drive in 5 hours?
   She can drive _____ miles in 5 hours.

15. 20% of the 30 soccer team members are new on the team. How many members are new?
   There are _____ new members on the team.

16. Lily spent $52.00 total on clothes at Target. She forgot to use a 25% off coupon when she checked out. What would have been her discount if she had used the coupon?

Her discount would have been _____ .

17. Bob had dinner at Macaroni Grill. His bill was $26.53. What is the amount he should leave for the waitperson for a 15% tip? Round to the nearest dollar.

He should leave _____ for the tip.

18. Computers at Joe's Electronics are discounted 20%. If the tax rate is 7%, how much will a $350 computer from Joe's Electronics cost after discount and tax?

It will cost _____ after discount and tax.

19. On a map, 1 cm represents 50 miles. Find the actual distance between two cities if they are 4.8 cm apart on the map. (Hint: set up a proportion.)

The actual distance is _____ miles.

20. The actual distance between Atlanta and Savannah is 235 miles. Determine the scale used on the map below if the distance is 5 cm.

The scale used on the map below is _____ cm : _____ miles.