Rates Assessment

Name_____

Date_____

Do your best to answer these questions. It is OK if there are some questions you cannot answer.

Directions: Show <u>all</u> your work and label your answers with units. If necessary, round your answers to a reasonable number of decimal places.

Part 1 – No Calculators. *When you complete this part, turn in your paper and get Part 2.*

1. One afternoon a thunderstorm caused the temperature to drop. At 3:00 p.m. the temperature was 96 degrees. A thunderstorm came through and at 5:00 p.m. the temperature was 80 degrees. What was average drop in the temperature in degrees per hour?

2. Sally has 5 pet mice. The mice eat 6 tablespoons of food in 4 days. How much food is needed to feed them for 12 days?

3. You are playing music at a rate of 120 beats per minute. There are 4 beats per measure. How many measures do you play per minute?

4. Each sprinkler head at the golf course sprays 50 gallons of water each morning. There are 8 sprinkler heads per fairway. How many gallons of water will be released over 2 fairways?

5. A large water tank currently has 200 gallons in it. A water pipe can add water to the tank at a rate of 4 gallons per minute. If the water pipe is turned on, how much will be in the tank after 10 minutes?

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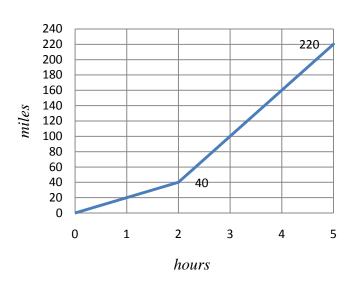
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Part 2 –Calculators allowed.

6. In a local newspaper advertisement 4.2 pounds of chocolate costs $22.47. What is the cost per pound?

7. Bill sees two boxes of baseball cards at a card show. The first box has 150 cards for $12.55. The second box has 120 cards for $9.60. Which box has the cheaper cards?

8. The density of gold is 19.30 grams per cc (cubic centimeter). One golden egg is 15 cc. Find the mass (in grams) of the golden egg.

9. Jack and Jill's car used 7 gallons to travel 140 miles.
    a) Jack takes $140 \div 7$ and gets 20. Explain what the 20 means.

    b) Jill takes $7 \div 140$ and gets .05. Explain what the .05 means.

10. On the scale on the South Dakota map, 1 inch equals 20 miles. Rapid City, SD and Sioux Falls, SD are 17½ inches apart on the map. How far apart are these cities?

11. We are baking chocolate chip cookies. There are 8 chocolate chips per cookie. Each pan of cookies has 24 cookies. Find the number of chocolate chips per pan.

12. A baseball pitcher throws the baseball at 85 miles per hour. Convert this speed to feet per second. (1 mile = 5,280 feet)

13. A fashion magazine has 12 advertisements for every 18 pages. How many advertisements will there be in 45 pages?

14. Chocolate covered peanuts cost $4.65 per pound. You have $2. How much (in pounds) can you buy? Round your answer to two decimal places.

15. Mike eats 2 string cheese sticks every day. He can buy 3 sticks for $1. How much does he spend on string cheese in February (not leap year)?

16. The graph at the right shows the distance traveled by a car during a five hour trip. You will notice that the car travels more slowly during the first two hours of the trip (due to fog) and faster during the last three hours. What is the average speed of the car for the five hour trip?

17. Madison babysits on Thursday for the Baker family for 2 hours. They pay her $5 per hour. She babysits on Friday for the Lopez family for 3 hours. They pay $6 per hour. She babysits on Saturday for the Kim family for 3 hours for $8 per hour. What is her average pay per hour?