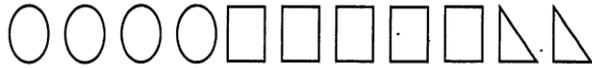**Unit 2 Ratios, Rates, and Proportional Reasoning…..Show ALL work on a piece of notebook paper!!**

<u>RP1:</u> I understand the concept of a ratio and can describe the relationship between two quantities.

1. There are 408 students and 17 teachers at Glenda's school. Write the ratio of students to teachers in the three different forms.

2. What is the ratio of circles to squares? _____ What type of ratio relationship is this? _____

3. The table shows the number of different types of reference books in a library. Write the ratio, in three different forms, of dictionaries to the total number of reference books in the library. Show your work.

Reference Book Type	Number of Books
Dictionary	8
Thesaurus	5
Encyclopedia	12

<u>RP2:</u> I understand the concept of unit rate

4. Kroger's weekly sales ad lists macaroni and cheese as $12.66 for a 12 pack and Publix's weekly advertisement lists $6.69 for a 6 pack of macaroni and cheese. Which store offers a better price per pack?

5. Target sells 3 pounds of hamburger meat for $7.56 and Walmart sells 4 pounds for $8.48. Which store has a better price per pound?

6. Find the rate: You run 21 miles in 6 days: _____ You spend $2.50 on a 10-mile subway ride:_____

<u>RP3:</u> I use ratio reasoning to solve real world problems. Equivalent ratios, tables, diagrams, percents, & measurement.

7. The fuel for a chain saw is a mix of oil and gasoline. The label says to mix **6 ounces of oil with 16 gallons of gasoline**. How much oil would you use if you had **32 gallons of gasoline**? *Set up a proportion!

8. A recipe calls for **9 tablespoons of milk for every 21 cups of flour**. If the chef puts in **168 cups of flour**, how many tablespoons of milk must the chef add? *Set up a proportion!

9. Which pair of ratios is **NOT** proportional? A.) $\frac{24}{27} = \frac{16}{18}$ B.) $\frac{6}{10} = \frac{30}{45}$ C.) $\frac{6}{15} = \frac{8}{20}$ D.) $\frac{20}{24} = \frac{10}{12}$
*Check cross products!

10. A bottle of cat medicine says to give **2 mL for every pound** of body weight. How much would you give a 12-lb cat?

11. A spaceship is traveling at a steady rate. The table shows the distance the spaceship travels in a given period of time. Find the distance the spaceship travels in 4 minutes and 8 minutes. *Use unit rate or equivalent ratios!

Time (min)	2	4	6	8
Distance (mi)	40	?	10	

12. A train travels at a constant speed of 72 miles per hour. How far will the train travel in 4 hours?

13. What is 13% of 66? _____   What is 64% of 50?_____   What is 35% of 300?_____

14. 4% of _____ is 56.   8% of _____ is 2.   20% of _____ is 45.

15. 15% of the number of people who attended a concert arrived late. If 30 people arrived late, find the number of people who attended the concert.

16. At the Natural History Museum, 40% of the visitors are children. There are 36 children at the museum. How many visitors altogether are at the museum?

17. Bruce cooked 80% of the pancakes at the pancake breakfast last weekend. They made 1,120 pancakes. How many pancakes did Bruce cook?

18. Rob had a 15% off coupon for the sporting goods store. He bought a tennis racket that had a regular ticket price of $94.00. How much was the discount? _____

19. Carl and Rita ate breakfast at a local diner. Their bill came to $11.48. They gave their waitress a tip that was 25% of their bill. How much did they leave for tip?

20. Joni answered 80% of the questions correctly on her test. Joni got 20 questions correct. How many questions were on her test?

21. 6 feet = _____ inches   64 oz = _____ lbs   7.5 cm = _____ mm

22. A fence measures 30 feet. If there are 3 feet in one yard, how many yards long is the fence?

23. Colt is making lemonade for his baseball team. He made 4 gallons. How many cups of lemonade does he have?

24. The average Asian elephant weighs 3 tons. If there is 2,000 points in 1 ton, what is the weight in pounds?

25. A bottle has a capacity of 1,750 milliliters. What is its capacity in liters?

26. The length of the driveway is 45 meters. What is the length of the driveway in kilometers ?

27. The mass of a brick is 1.52 kg. What is the brick's mass in grams?