Ratio and Rates Study Guide

Solve each of the problems below. These represent the types of questions on your test. Be sure to ask questions if you need more help with a topic.

I CAN UNDERSTAND THE CONCEPT OF A RATIO.

1. All of the letters in the alphabet are randomly placed in a bag. Each letter appears just once. What is the ratio of vowels to consonants?	2. Abe's Apple Orchard plants both green apple trees and red apple trees. This planting will include 21 red apple trees and 18 green apple trees. What is the ratio of green apple trees to red apple trees?	3. Determine if 12:16 and 72:96 are equivalent ratios.

I CAN USE RATIOS TO SOLVE REAL-WORLD AND MATHEMATICAL PROBLEMS.

4. A florist uses 160 roses to make 5 identical flower arrangements. How many roses would the florist use to create 8 identical arrangements?	5. At a hot dog stand, they serve regular and footlong hot dogs at a ratio of 3 to 2. Based on this ratio, how many footlong hot dogs will be served if there is a total of 80 dogs served?
6. A large community college has professors and lecturers. The total number of faculty members is 228. The school reported that they had 5 professors for every 14 lecturers. How many of each type of faculty member does the community college employ?	7. Johanna can jog 3,000 feet in 5 minutes. If she jogs at the same rate, how many feet can she jog in 8 minutes?

I CAN USE RATIOS TO SOLVE REAL-WORLD AND MATHEMATICAL PROBLEMS.

8. On Monday, Janell earned $16 for 2 hours of babysitting. Getting paid the same rate, she earned $40 for babysitting on Saturday. How many hours did Janelle babysit on Saturday?

I CAN MAKE TABLES OF EQUIVALENT RATIOS AND FIND MISSING VALUES.

9. A pancake recipe calls for 2 cups of flour for every 1.5 cups of milk. Which table represents this relationship?

Cups of Flour	Cups of Milk
2	1.5
4	3
6	4.5
8	5

Cups of Flour	Cups of Milk
2	1.5
6	4.5
10	6
12	7.5

Cups of Flour	Cups of Milk
2	1.5
4	3
8	6
10	7.5

10. There are 3 feet in every yard. Which table represents this relationship?

Feet	Yards
6	3
12	6
18	9
24	12

Feet	Yards
6	2
9	3
12	4
15	5

Feet	Yards
3	1
9	2
12	3
15	4

11. The table below shows an equivalent ratio. Fill in the missing values.

1	
	24
	42
10	
13	78

I CAN UNDERSTAND THE CONCEPT OF A RATE.

12. 4 pounds of apples cost $3.88. What is the price per pound?	13. Find the rate if a fitness instructor can do 75 pull-ups in 5 minutes.	14. Snow fell at a rate of $\frac{3}{4}$ inch/hour. How much snow fell in a period of 6 hours?

I CAN USE UNIT RATES TO SOLVE PRICING AND SPEED PROBLEMS.

15. Yvonne paid $18.72 for 8 gallons of gas. She then passed by another gas station advertising it for $2.29 per gallon. How much money would she have saved if she had waited and purchased it at the other location?	16. A carwash uses 50 gallons of water every 40 seconds. How much water does it use per second?
17. Protein bars come in a 4-pack box or a 12-pack box. The 4-pack costs $7.68 and the 12-pack costs $22.32. Which box is the better value?	18. A speedboat traveling at a constant speed arrives at its destination in 35 minutes. If it traveled 70 miles, what was the speedboat's speed?