Name: _____

Date: _____

Objective: *I will use unit rates to solve real-world problems.*

Vocabulary	Steps:
Ratio: a comparison of any two quantities	1. Identify and write the rate in words.

The ratio of circles to stars is $\frac{2}{5}$ or 2:5 or 2 to 5.

2. Express the units/quantity as a ratio in fraction form.
3. Divide the numerator by the denominator to get a denominator of 1.
4. Solve for the variable.
5. Use the unit rate to solve for the given measurement.

Unit Rate: a ratio showing a comparison to one; a rate with a denominator of 1

70 miles per hour $= \frac{70}{1}$

Equivalent Ratios: ratios, in fraction form, that are equivalent

Ratios 5:2 and 10:4 are equivalent

because $\frac{5}{2} = \frac{10}{4}$.

Example # 1	Example # 2
Directions: Read and solve.	
The 750-ton train burns 48 lbs. of coal to go 8 miles. If a 12 lb. bag of coal costs $7.50, how much will the coal cost to run a train 190 miles from Boston to New York?	Albert is making soup for his three restaurants. He needs $\frac{1}{3}$ a cup of garlic for every $\frac{1}{4}$ of a gallon of soup. If a full gallon of soup is enough to feed 15 guests, and the restaurant is expecting 300 guests, how much garlic will Albert need?
Answer: The coal will cost $712.50 to run the train 190 miles from Boston to New York.	**Answer:** Albert will need $26\frac{2}{3}$ cup of garlic to feed his 300 guests.

Directions: Find the unit rate and solve.

1. An airport has a plane landing every 55 seconds. If the average flight holds 245 passengers, how many passengers arrive at this airport in a day?	2. To seed a flower garden, 46 seeds are needed for every $\frac{3}{4}$ ft². The garden is 12ft. by 15ft. If each pack of seed contains 12 seeds and costs $0.89, how much will it cost to seed the garden?
3. The star basketball player dribbles the ball 63 times every $\frac{1}{4}$ of the game. If the player shoots the ball every 28 dribbles, how many shots does the player take per game?	4. An Internet video service provider charges $0.32 per day. Subscribers get monthly statements. If they have 125 million subscribers, how much money do they make per year? (Assume it is a non-leap year.)
5. A print company takes 47 orders every 0.5 hours. If the average order is for 35 pages, how many sheets of paper does the company need per day? (Assume the company is open 24 hours.)	6. Each hair stylist works with 3 customers every $\frac{1}{3}$ hour. Each customer pays an average of $45 and there are 4 stylists in the salon. How much money does the salon take in, during a 10-hour workday?

Explain the steps you used to solve problem number _____.

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