

### Example

## Ratio, Rate Problems.

Tutor

4. Jeremy drove his motorcycle 120 miles in 3 hours. At this rate, how many miles can he drive in 5 hours? At what rate did he drive his motorcycle?

$$\frac{120 \text{ miles}}{3 \text{ hours}} = \frac{\square \text{ miles}}{1 \text{ hour}} \quad \frac{120 \text{ miles}}{3 \text{ hours}} = \frac{40 \text{ miles}}{1 \text{ hour}}$$

Find the unit rate.

$$\frac{40}{1 \text{ hour}} \times 5 \text{ hours} = 200 \text{ miles}$$

Multiply.

So, Jeremy can drive 200 miles in 5 hours driving at a rate of 40 miles per hour.

## Guided Practice

Check



- Out of 30 students surveyed, 17 have a dog. Based on these results, predict how many of the 300 students in the school have a dog? (Example 1)
- If one out of 12 students at a school share a locker, how many share a locker in a school of 456 students? (Example 2)
- Sybrina jogged 2 miles in 30 minutes. At this rate, how far would she jog in 90 minutes? At what rate did she jog each hour? (Examples 3 and 4)

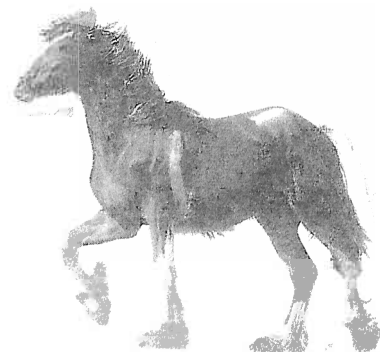
## Independent Practice

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eHelp



- If 45 cookies will serve 15 students, how many cookies are needed for 30 students? (Examples 1 and 2)
- Four students spent \$12 on school lunch. At this rate, find the amount 10 students would spend on the same school lunch. (Example 3)
- A Clydesdale drinks about 120 gallons of water every 4 days. At this rate, about how many gallons of water does a Clydesdale drink in 28 days? (Example 3)



# Katio, Kate Problems

4. **STEM** In 10 minutes, a heart can beat 700 times. At this rate, in how many minutes will a heart beat 140 times?

5. **CCSS** **Make a Prediction** The table shows which school subjects are favored by a group of students. Predict the number of students out of 400 that would pick science as their favorite subject.

Favorite Subject	
Subject	Number of Responses
Math	6
Science	3
English	4
History	7

6. Liliana takes 4 breaths per 10 seconds during yoga. At this rate, about how many breaths would Liliana take in 2 minutes of yoga?

## Extra Practice

13. A survey reported that out of 50 teenagers, 9 said they get their news from a newspaper. At this rate, how many out of 300 teenagers would you expect to get their news from a newspaper?

Handwritten: 54 teenagers

$$\begin{array}{ccc} & \times 6 & \\ \text{50} & = & \text{300} \\ \text{9} & = & \text{54} \\ & \times 6 & \end{array}$$

14. Nata spent \$28 on 2 DVDs. At this rate, how much would 5 DVDs cost? At what rate did she spend her money?

15. If 15 baseballs weigh 75 ounces, how many baseballs weigh 15 ounces?

16. **CCSS** **Make a Prediction** Suppose 8 out of every 20 students are absent from school less than five days a year. Predict how many students would be absent from school less than five days a year out of 40,000 students.