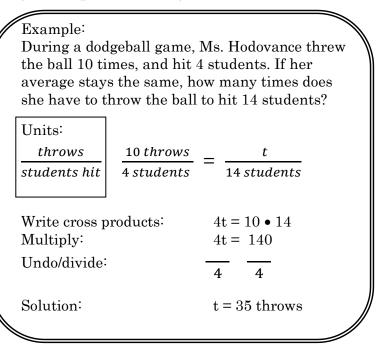# Solving Word Problems With Proportions

Name _____ Per. _

Directions: Set up a proportion for each problem. Then, solve it by using cross products. Show your steps, and label your answers.

Example:
During a dodgeball game, Ms. Hodovance threw the ball 10 times, and hit 4 students. If her average stays the same, how many times does she have to throw the ball to hit 14 students?

Units:

$\dfrac{throws}{students\ hit}$ $\dfrac{10\ throws}{4\ students} = \dfrac{t}{14\ students}$

Write cross products: $4t = 10 \bullet 14$
Multiply: $4t = 140$

Undo/divide: $\dfrac{4}{4}\quad \dfrac{4}{4}$

Solution: $t = 35$ throws

3. Joey can type 80 words per minute. How many words can he type in 30 minutes?

Units:
_____

2,400 words

4. Eight oranges cost $1.00. How much will 5 dozen oranges cost?

$7.50

1. Carol spends 17 hours in a 2-week period practicing her clarinet. How many hours does she practice in 5 weeks?

Units:
_____

42.5 hours

5. A certain shade of paint is made by mixing 5 parts blue paint with 2 parts white paint. To get the correct shade, how many quarts of white paint should be mixed with 8.5 quarts of blue paint?
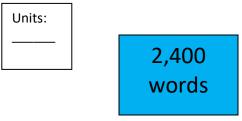
3.4 quarts of white

2. In a shipment of 400 parts, 14 are found to be defective. How many defective parts should be expected in a shipment of 1000 parts?

Units:
_____
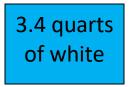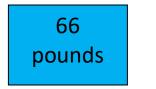
35 defective parts

6. A 12-pack of 8-ounce juice boxes costs $5.40. How much would an 18-pack of juice boxes cost if it is proportionate in price?

$8.10

7. A recipe for lasagna calls for 3 pounds of tomatoes to serve 5 people. A caterer wants to make enough lasagna to serve 110 people. How many pounds of tomatoes does he need?

66 pounds

8. Euros are currency used in several European countries. On one day in October 2005, you could exchange $3 for about 2.5 Euros. How many dollars would you have needed to get 8 Euros?
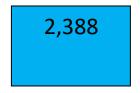
$9.60

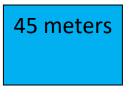9. Terry drove 366 miles in 6 hours at a constant speed. How long would it take him to drive 427 miles at the same speed?

7 hours

10. A snowstorm dumped 18 inches of snow in a 12-hour period. How many inches were falling per hour?

1.5 or 1½ hours

11. An employee working at an electronics store earned $3582 for working 3 months during the summer. What did the employee earn for the first two months?

2,388

12. Jeanette can swim 105 meters in 70 seconds. How far can she probably swim in 30 seconds?

45 meters

13. There are 20 grams of protein in 3 ounces of sautéed fish. If the answer is 9 ounces, what is the question?

Answers vary: How many ounces of fish have 60 grams of protein?

Challenge:
14. In June, a camp has 325 campers and 26 counselors. In July, 265 campers leave and 215 new campers arrive. How many counselors does the camp need in July to keep an equivalent ratio of campers to counselors?

22 counselors