

## HW 7-5

## Solving Proportions

## Unit 7

## at 1

Solve each proportion.

1.  $\frac{1.5}{6} = \frac{10}{p}$

$$p = 40$$

2.  $\frac{6}{25} = \frac{m}{30}$

3.  $\frac{2}{y} = \frac{0.4}{0.7}$

$$y = 3.5$$

Assume the following situations are proportional. Write a proportion and solve.

4. Evan paid \$1.12 for a dozen eggs at a local grocery store. Determine the cost of 3 eggs.

5. Kari mixed 3 ounces of blue paint with 2 ounces of yellow paint. She decided to create 20 ounces of the same mixture. How many ounces of yellow paint does Kari need for the new mixture?

8 oz of yellow paint

Assume the following situations are proportional. Write a proportion and solve.

6. A car can travel 476 miles on 14 gallons of gas. How many gallons of gas does his car need to travel 578 miles?

7. Mrs. Baker paid \$2.50 for 5 pounds of bananas. How much would Mrs. Baker pay for 8 pounds of bananas?

\$4.00 for 8 lbs of bananas

8. A woman who is 64 inches tall has a shoulder width of 16 inches. Find the height of the woman who has a shoulder width of 18.5 inches.

9. At an amusement park, 360 visitors rode the roller coaster in 3 hours. Write and solve a proportion to find the number of visitors at this rate who will ride the roller coaster in 7 hours.

840 visitors will ride in 7 hours

10. Use the table to write a proportion relating the weights on two planets. Then, find the missing weight. Round to the nearest tenth.

Weights on Different Planets
45.6 lbs on Mercury is equivalent to 120 lbs on Earth
109.2 lbs on Venus is equivalent to 120 lbs on Earth
96 lbs on Uranus is equivalent to 120 lbs on Earth
304.8 lbs on Jupiter is equivalent to 120 lbs on Earth

a. Earth: 90 pounds (lbs); Venus: \_\_\_\_\_ lbs

b. Mercury: 55 lbs; Earth: \_\_\_\_\_ lbs

c. Jupiter: 350 lbs; Uranus: \_\_\_\_\_ lbs

d. Venus: 115 lbs; Mercury: \_\_\_\_\_ lbs

11. A powdered drink mix calls for a ratio of powder to water of 1:8. If there are 32 cups of powder, how many total cups of water are needed? Explain your reasoning.

256 cups of water

Solve each proportion.

12.  $\frac{x}{13} = \frac{18}{39}$

13.  $\frac{44}{x} = \frac{11}{5}$

14.  $\frac{2.5}{6} = \frac{h}{9}$

$x = 20$

Assume the situations are proportional. Write a proportion and solve.

15. For every person who has the flu, there are 6 people who only have flu-like symptoms. If a doctor sees 40 patients, determine approximately how many patients you would expect to have only flu-like symptoms.

about 34 people

16. For every left-handed person, there are about 4 right handed people. If there are 30 students in a class, predict the number of students who are right-handed.

17. Jeremiah is saving money from a tutoring job. After the first three weeks, he saved \$135. Assume the situation is proportional. At this rate, how much will Jeremiah save after eight weeks?

\$360 after weeks

18. A speed limit of 100 kilometers per hour (kph) is approximately equal to 62 miles per hour (mph). Write a proportion for each. Then, predict the following measures. Round your answers to the nearest tenth.

a. a speed limit in mph for a speed limit of 75 kph

b. a speed limit in kph for a speed of 20 mph

19. A recipe for making 3 dozen muffins requires 1.5 cups of flour. At this rate, how many cups of flour are required to make 5 dozen muffins?

a. 2 cups

b. 2.5 cups

c. 3 cups

d. 3.5 cups

20. The line for the Cannibal at Lagoon is moving about 4 feet every 15 minutes. At this rate, approximately how long will it take for a person at the back of the 50-foot line to reach the front of the line?

- a. 1 hour                      b. 3 hours                      c. 5 hours                      d. 13 hours

21. Crystal's mother kept a record of Crystal's height at different ages. She recorded the information in a table.

Is the relationship between Crystal's age and her height proportional?  
Explain.

NO.  
Doesn't start @ (0,0)

Age (yr)	Height (in)
0 (birth)	19
1	25
2	30
5	42
10	55
12	60

22. The table shows the cost to have various numbers of pizzas delivered from Pizza Hut. Is the relationship between the cost and the number of pizzas proportional?

Explain.

# of Pizzas	Cost (\$)
1	12.50
2	20
3	27.50
4	35

23. Brenna charges \$15, \$30, \$45, and \$60 for babysitting 1, 2, 3, and 4 hours, respectively. Is the relationship between the amount charged and the number of hours proportional? If so, find the unit rate. If not, explain why it would not be proportional.

Yes!  $\frac{\$15}{1 \text{ hr}} = \text{unit rate}$

For problems 24 and 25 find the unit rate.

24. 50 miles on 2.5 gallons

25. 2,500 kilobytes in 5 minutes

$\frac{500 \text{ kilobytes}}{1 \text{ min}}$