

# Unit 1 – Ratios and Proportional Relationships




Review Guide

Math 8

## Identify what is asked.

- \_\_\_\_\_ 1. The comparison or relationship between two things.
- \_\_\_\_\_ 2. The name for the values in a ratio.
- \_\_\_\_\_ 3. A special ratio that compares quantities of different units.
- \_\_\_\_\_ 4. A rate where the second term is equal to 1.
- \_\_\_\_\_ 5. Ratios that have equal simplest form.
- \_\_\_\_\_ 6. The value of  $x$  that will make the ratios 3:4 and  $x$ :8 equivalent.
- \_\_\_\_\_ 7. The equality of two ratios or fractions.
- \_\_\_\_\_ 8. It is a number expressed as a fraction of 100.

## Write the ratio of the given objects.

9.  The ratio of  to  is \_\_\_\_\_.

10.  The ratio of  to  is \_\_\_\_\_.

11.  The ratio of  to the total number of hearts is \_\_\_\_\_.

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Find the unknown term in the given equivalent ratios.

12.  $21:24 = 28:x$

13.  $25:75 = x:3$

14.  $x:48 = 10:40$

Use the symbols (  $<$  ,  $>$  ,  $=$  ) to compare the given pairs of ratios.

15.  $36:12$  \_\_\_\_\_  $12:4$

16.  $7:8$  \_\_\_\_\_  $11:13$

17.  $14:63$  \_\_\_\_\_  $4:18$

18.  $13:24$  \_\_\_\_\_  $18:6$

19.  $16:6$  \_\_\_\_\_  $14:4$

Tell whether the given proportions are TRUE or FALSE.

\_\_\_\_\_ 20.  $3:25 = 75:100$

\_\_\_\_\_ 21.  $12:16 = 24:48$

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Review Guide

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\_\_\_\_\_ 22.  $11:44 = 8:32$

Complete the table with the correct values.

	Fractions	Percent	Decimal
23.		36%	
24.			0.45
25.		23%	
26.			0.68
27.	$\frac{3}{4}$		
28.			0.32
29.	$\frac{4}{5}$		
30.		71%	

Convert the following units using **RATIO**.

31. 0.05 kilometers = \_\_\_\_\_ meter/s

32. 1000 pounds = \_\_\_\_\_ ton/s

33. 375 milliliters = \_\_\_\_\_ liter/s

34. 7.2 inches = \_\_\_\_\_ feet

35. 0.08 kilograms = \_\_\_\_\_ milligram/s

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**Solve the following problems.**

36. To make lemonade, 5 liters of water for every 8 lemons are needed. To make more lemonade, one needs 5 times the quantity. What is the ratio of water to lemonade of the new mixture?

37. If Tony can type 180 words in 3 minutes and Phil can type 210 words in 5 minutes, who types faster?

38. James went on a vacation and had spent  $\frac{5}{7}$  of her money.

- What percent of his money did she already spend?
- What percent of his money does she have left?
- Express the money he his left in fraction.

39. Chris has a piece of wood 1.2 meters long. If he cuts it into 3 equal equal parts, how long will each piece be in millimeters?