

# Unit 1 – Ratios and Proportional Relationships

Review Guide

Math 8

## Answers:

### Identify what is asked.

**RATIO**

1. The comparison or relationship between two things.

**TERM**

2. The name for the values in a ratio.

**RATE**

3. A special ratio that compares quantities of different units.

**UNIT RATE**

4. A rate where the second term is equal to 1.

**EQUIVALENT**

5. Ratios that have equal simplest form.

**RATIO**

**6**

6. The value of  $x$  that will make the ratios 3:4 and  $x$ :8 equivalent.

**PROPORTION**

7. The equality of two ratios or fractions.

**PERCENT**

8. It is a number expressed as a fraction of 100.

### Write the ratio of the given objects.

9. 

The ratio of  to  is **5:4**.

10. 

The ratio of  to  is **5:4**.

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11. 

The ratio of  to the total number of hearts is **3:7**.

Find the unknown term in the given equivalent ratios.

12.  $21:24 = 28:x$

$x = 32$

13.  $25:75 = x:3$

$x = 1$

14.  $x:48 = 10:40$

$x = 12$

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.  $16:6 < 14:4$

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Tell whether the given proportions are TRUE or FALSE.

**False** 20.  $3:25 = 75:100$

**False** 21.  $12:16 = 24:48$

**True** 22.  $11:44 = 8:32$

Complete the table with the correct values.

	Fractions	Percent	Decimal
23.	$\frac{9}{25}$	36%	0.36
24.	$\frac{9}{20}$	45%	0.45
25.	$\frac{23}{100}$	23%	0.23
26.	$\frac{17}{25}$	68%	0.68
27.	$\frac{3}{4}$	75%	0.75
28.	$\frac{8}{25}$	32%	0.32
29.	$\frac{4}{5}$	80%	0.80
30.	$\frac{71}{100}$	71%	0.71

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**Convert the following units using RATIO.**

31. 0.05 kilometers = 50 meter/s

32. 1000 pounds = 0.5 ton/s

33. 375 milliliters = 0.375 liter/s

34. 7.2 inches = 0.6 feet

35. 0.08 kilograms = 80000 milligram/s

**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?

**Solution: 25:40**

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

**Solution: Tony can type faster at 60 words per minute.**

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

a. What percent of his money did she already spend?

Solution: 71%

b. What percent of his money does she have left?

Solution: 29%

c. Express the money he has left in fraction.

Solution:  $\frac{2}{7}$

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?

Solution: Each piece of wood cost 0.4 meters.

0.4 meters = 400 millimeters