

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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_____ 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.			0.327
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.

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

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

c. 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?

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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