

Name: Key

Date:

Topic:

Class:

Main Ideas/Questions	Notes/Examples
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What is a Ratio?	<u>relationship between two quantities</u>
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Writing Ratios	<p>Given quantity a and quantity b, the ratio of a to b can be written in three ways:</p> <p><u>$a:b$ $\frac{a}{b}$ a to b</u></p> <p>Like fractions, ratios should always be written in <u>simplest form</u>!</p>
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Examples	Directions: Write each ratio in simplest form in two different ways.	
	1. 8 DVDs to 2 books <u>$4:1$ $\frac{4}{1}$</u>	2. 15 girls to 24 boys <u>$5:8$ $\frac{5}{8}$</u>
	3. 20 flounder to 8 bluefish <u>$\frac{5}{2}$ $5:2$</u>	4. 6 chaperones to 42 students <u>$1:7$ $\frac{1}{7}$</u>
	5. 36 bananas to 27 apples <u>$4:3$ $\frac{4}{3}$</u>	6. 8 skittles to 14 M&M's <u>$4:7$ $\frac{4}{7}$</u>
	7. 30 quarters to 72 nickels <u>$5:12$ $\frac{5}{12}$</u>	8. 24 kayaks to 40 paddle boards <u>$3:5$ $\frac{3}{5}$</u>
	9. This past season, the hockey team had 48 wins and 28 losses. Find each ratio in simplest form.	
	a) wins to losses <u>$12:7$ $\frac{12}{7}$</u>	b) losses to total games played <u>$7:19$ $\frac{7}{19}$</u>
	10. Given the word MASSACHUSETTS , find each ratio in simplest form.	
	a) vowels to consonants <u>$4:9$ $\frac{4}{9}$</u>	b) S's to total letters <u>$\frac{4}{13}$ $4:13$</u>

$$\begin{array}{r} 1 \\ 48 \\ +28 \\ \hline 76 \end{array}$$

$$\frac{28}{76} = \frac{7}{19}$$

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Ratios with Measurement

When a ratio involves measurements, both quantities must have the **same unit of measure**. When they are different, you must convert one unit to the other. It is usually easier to convert the larger quantity to the smaller quantity.

Examples

Directions: Write each ratio in simplest form.

11. 1 foot to 4 inches
 $12 \text{ in to } 4 \text{ in}$
 $\frac{12}{4} = \frac{3}{1}$

12. 28 inches to 3 feet
 $28 \text{ to } 36$
 $\frac{7}{9}$

13. 2 feet to 2 yards
 $2 \text{ ft to } 6 \text{ ft}$
 $\frac{1}{3}$

14. 4 yards to 30 inches
 $144 \text{ to } 30$
 $\frac{24}{5}$

15. 200 centimeters to 5 meters
 $200 \text{ to } 500$
 $\frac{2}{5}$

16. 2 kilometers to 72 meters
 $2000 \text{ to } 72$
 $\frac{2000}{72} = \frac{1000}{36} = \frac{500}{18} = \frac{250}{9}$

17. 4 cups to 8 pints
 $4 \text{ cups to } 8 \text{ cups}$
 $\frac{1}{4}$

18. 3 pounds to 24 ounces
 $48 \text{ ounces to } 24 \text{ ounces}$
 $\frac{2}{1}$

19. 2 gallons to 10 quarts
 $8 \text{ quarts to } 10 \text{ quarts}$
 $\frac{4}{5}$

20. 3 pints to 4 gallons
 $3 \text{ to } 32$
 $\frac{3}{32}$

21. 4 quarts to 6 gallons
~~4 quarts to 24 quarts~~
 $4 \text{ to } 24$
 $\frac{1}{6}$

22. 6 cups to 2 gallons
 $6 \text{ to } 32$
 $\frac{6}{32}$

23. 28 minutes to 1 hour
 $28 \text{ to } 60$
 $\frac{28}{60} = \frac{14}{30} = \frac{7}{15}$

24. 3 minutes to 48 seconds
 $180 \text{ to } 48$
 $\frac{180}{48} = \frac{90}{24} = \frac{45}{12} = \frac{15}{4}$

25. 8 hours to 2 days
 $8 \text{ to } 48$
 $\frac{1}{6}$

26. 1 day to 54 minutes
 $1440 \text{ to } 54$
 $\frac{1440}{54} = \frac{720}{27} = \frac{80}{3}$

27. It took Jane 1 hour and 20 minutes to do her math homework while it took Ava just 45 minutes. Find the ratio of time it took Jane to do her homework to the time it took Ava to do hers.

$$\frac{90}{45} = \frac{2}{1}$$

$$\frac{2}{36} = \frac{1}{18}$$

$$\frac{2}{60} = \frac{1}{30}$$