

Teacher Notes.

Lesson 1: Ratios

Classwork

Example 1

The coed soccer team has four times as many boys on it as it has girls. We say the ratio of the number of boys to the number of girls on the team is 4:1. We read this as four to one.

# of boys	# of Girls	Total
4	1	5
8	2	10
12	3	15

Suppose the ratio of the number of boys to the number of girls on the team is 3:2.

# of boys	# of girls	Total
3	2	5
6	4	10
9	6	15

Three Ways to write a ratio.

3:2
3 to 2
 $\frac{3}{2}$

Example 2: Class Ratios

Write the ratio of the number of boys to the number of girls in our class.

6 boys
4 girls

6:4 or 6 to 4 or $\frac{6}{4}$

Write the ratio of the number of girls to the number of boys in our class.

4 girls
6 boys

4 to 6 or 4:6 or $\frac{4}{6}$

Record a ratio for each of the examples the teacher provides.

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

Exercise 1

Example: My own ratio compares the number of students wearing jeans to the number of students not wearing jeans.

My ratio is 16:6

Exercise 2

Using words, describe a ratio that represents each ratio below. (Examples)

a. 1 to 12 For every one year, there are 12 months.

b. 12:1 For every twelve months, there is one year.

c. 2 to 5 For every two non-school days in a week, there ~~is~~ are five school days.

- d. 5 to 2 For every five female teachers, there are two male teachers that I have.
- e. 10:2 For every ten toes, there are two feet.
- f. 2:10 For every two problems I can finish, there are 10 minutes that pass.

Lesson Summary

A ratio is an ordered pair of numbers, which are not both zero.

A ratio is denoted $A:B$ to indicate the order of the numbers—the number A is first, and the number B is second.

The order of the numbers is important to the meaning of the ratio. Switching the numbers changes the relationship. The description of the ratio relationship tells us the correct order for the numbers in the ratio.

Problem Set

- At the sixth-grade school dance, there are 132 boys, 89 girls, and 14 adults.
 - Write the ratio of the number of boys to the number of girls. $132:89$ or 132 to 89
 - Write the same ratio using another form ($A:B$ vs. A to B). 132 to 89 or $132:89$
 - Write the ratio of the number of boys to the number of adults. $132:14$ or 132 to 14
 - Write the same ratio using another form. 132 to 14 or $132:14$
- In the cafeteria, 100 milk cartons were put out for breakfast. At the end of breakfast, 27 remained.
 - What is the ratio of the number of milk cartons taken to the total number of milk cartons? $73:100$ or 73 to 100
 - What is the ratio of the number of milk cartons remaining to the number of milk cartons taken? $27:73$ or 27 to 73
- Choose a situation that could be described by the following ratios, and write a sentence to describe the ratio in the context of the situation you chose.
For example:
3:2. When making pink paint, the art teacher uses the ratio 3:2. For every 3 cups of white paint she uses in the mixture, she needs to use 2 cups of red paint. (Examples)
 - 1 to 2 For every one nose, there are two eyes.
 - 29 to 30 For every 29 girls in PE, there are 30 boys.
 - 52:12 For every 52 weeks in the year, there are 12 months.