

Practice Activities

Understanding Ratios

1. A school supply store has 6 blue pens and 9 red pens on the counter. Write the ratio of blue pens to red pens in all three forms (word form, colon form, and fraction form). Then write a sentence using ratio language to describe the relationship.
2. Which of the following correctly expresses the ratio of stars to circles if there are 4 stars and 7 circles?
 - a) 7 to 4
 - b) 4 to 7
 - c) 7 : 4
 - d) 7/4
3. The ratio of wins to losses for a basketball team is 5 to 2. The ratio of losses to wins is also 5 to 2. True or False?
4. A smoothie recipe calls for 3 cups of strawberries and 2 cups of yogurt. Complete each sentence below:
 - a) The ratio of strawberries to yogurt is _____ to _____.
 - b) For every 2 cups of yogurt, there are _____ cups of strawberries.
 - c) The ratio of yogurt to strawberries, written in colon form, is _____ : _____.
5. A parking lot at a shopping mall contains 24 SUVs and 16 sedans.
 - a) Write the ratio of SUVs to sedans in all three notations.
 - b) Write the ratio of sedans to SUVs in all three notations.
 - c) Explain in one sentence why these two ratios are different, even though they describe the same parking lot.

6. Match each situation on the left with the correct ratio on the right.

Situations	Ratios
___ A class has 10 boys and 14 girls. The ratio of girls to boys is:	a) 3 : 8
___ A bag holds 3 apples and 8 bananas. The ratio of apples to bananas is:	b) 14 to 10
___ A team scored 8 goals and allowed 3. The ratio of goals allowed to goals scored is:	c) $\frac{8}{3}$

7. A lemonade stand uses 4 lemons and 12 ounces of water to make one pitcher of lemonade.

- Write the ratio of lemons to water in colon form.
- Write the ratio of water to the total number of ingredient units.
- Use ratio language to describe the ratio of lemons to water in a complete sentence.

8. Sofia says: "In my fish tank, the ratio of goldfish to guppies is 5:3. That means I have exactly 5 goldfish and 3 guppies."

Is Sofia's statement correct? Explain your reasoning using what you know about what a ratio represents.

9. A trail mix recipe contains 2 cups of nuts, 3 cups of dried fruit, and 1 cup of chocolate chips.

Ingredient	Cups
Nuts	2
Dried Fruit	3
Chocolate Chips	1

- Write the ratio of nuts to dried fruit.
- Write the ratio of chocolate chips to the total number of cups in the recipe.
- Write the ratio of dried fruit to the total number of cups using ratio language in a complete sentence.

- 10.** A soccer field has 4 referees and 22 players on it during a match.

Write the ratio of referees to players in word form, and the ratio of players to referees in colon form. Then explain what each ratio tells you about the situation.

- 11.** Which statement correctly uses ratio language to describe a jar with 7 green marbles and 5 yellow marbles?

- a) "There are more green marbles than yellow marbles."
- b) "For every 5 yellow marbles, there are 7 green marbles."
- c) "For every 7 yellow marbles, there are 5 green marbles."
- d) "The ratio of yellow to green is 7 to 5."

- 12.** A farmer's market stand sells 15 peaches and 10 plums on a Saturday morning.

- a) Write the part-to-part ratio of plums to peaches in all three notations.
- b) Write the part-to-whole ratio of peaches to total fruit in colon form.
- c) A customer says, "The ratio of peaches to plums is the same as the ratio of plums to peaches." Is the customer correct? Explain.

- 13.** Marcus is comparing two sports cards. One card shows a pitcher with 8 strikeouts and 2 walks. Another shows a pitcher with 6 strikeouts and 4 walks.

- a) Write the ratio of strikeouts to walks for each pitcher.
- b) Use ratio language to describe each pitcher's ratio.
- c) Which pitcher's ratio shows more strikeouts for every walk? How can you tell?

14. A paint store mixes 1 part red paint, 3 parts yellow paint, and 2 parts white paint to create a custom color.
- Write the ratio of red to yellow paint.
 - Write the ratio of white paint to the total mixture.
 - Write the ratio of red paint to the total mixture using ratio language in a complete sentence.
 - If the store doubled every quantity, would any of the ratios change? Explain your thinking.
15. Look at the table below showing the number of students in each after-school club at Jefferson Middle School.

Club	Number of Students
Art	8
Science	12
Drama	5
Sports	15

- Write the ratio of Art club students to Science club students in all three forms.
- Write the ratio of Drama club students to Sports club students using ratio language.
- Write the part-to-whole ratio of Science club students to the total number of students across all clubs, in colon form.
- A student says, "The ratio of Sports to Drama is the same as the ratio of Drama to Sports." Is this true or false? Explain.

Answer Key

1. Blue pens to red pens:

- Word form: 6 to 9
- Colon form: 6 : 9
- Fraction form: $\frac{6}{9}$
- Ratio language: “For every 6 blue pens, there are 9 red pens.”

2. **b) 4 to 7**

The question asks for stars to circles. There are 4 stars and 7 circles, so the ratio is 4 to 7. Order matters — stars are named first.

3. False.

The ratio of wins to losses is 5 to 2. Reversing the order gives the ratio of losses to wins, which is 2 to 5 — a completely different ratio.

4. **a) 3 to 2**

- b) 3 cups of strawberries
c) **2 : 3**

5. a) SUVs to sedans: “24 to 16” / 24 : 16 / $\frac{24}{16}$

b) Sedans to SUVs: “16 to 24” / 16 : 24 / $\frac{16}{24}$

c) Sample answer: The two ratios are different because they name the quantities in opposite orders — the first describes how many SUVs there are for every sedan, while the second describes how many sedans there are for every SUV.

6. Correct matches:

- **Girls to boys (10 boys, 14 girls) → b) 14 to 10**
- **Apples to bananas (3 apples, 8 bananas) → a) 3 : 8**
- **Goals allowed to goals scored (8 scored, 3 allowed) → 3 to 8**

Note: The ratio of goals allowed to goals scored is 3 to 8. Option c) $\frac{8}{3}$ represents goals scored to goals allowed, not the reverse.

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- Write the ratio of chocolate chips to the total number of cups in the recipe.
- Write the ratio of dried fruit to the total number of cups using ratio language in a complete sentence.

13. a) A baseball pitcher records the following stats in a season. Write the ratio of strikeouts to walks for each pitcher.
- Pitcher 1: 8 strikeouts, 2 walks
Pitcher 2: 6 strikeouts, 4 walks
- b) Write each ratio from part (a) in a sentence that describes it.
- c) Which pitcher has more strikeouts for every walk? Explain your reasoning by comparing the ratios.
14. a) A painter mixes paint using 1 part red paint, 3 parts yellow paint, and 2 parts white paint. What is the ratio of red paint to yellow paint?
- b) What is the ratio of white paint to the total mixture? Show how you found the total parts.
- c) Write a sentence that describes the ratio of red paint to the total mixture.
- d) If the painter doubles every amount of paint (2 parts red, 6 parts yellow, 4 parts white), would the ratios change? Explain your answer.
15. a) At a school, 8 students are in Art, 12 students are in Science, 5 students are in Drama, and 15 students are in Sports. Write the ratio of the number of students in Art to the number of students in Science.
- b) Write a sentence that describes the ratio of the number of students in Drama to the number of students in Sports.
- c) What is the ratio of the number of students in Science to the total number of students at the school? Show how you found the total.
- d) True or False: The ratio of Sports to Drama is the same as the ratio of Drama to Sports. Explain your answer.