

Practice Activities

Understanding Ratios in Real Life

1. A lemonade recipe calls for 2 cups of lemon juice and 5 cups of water. Which ratio correctly represents lemon juice to water?
 - a) 5:2
 - b) 2:7
 - c) 2:5
 - d) 7:2

2. A school garden has 18 tomato plants and 12 pepper plants. Write the ratio of tomato plants to pepper plants in simplest form. Then write the ratio of pepper plants to the total number of plants in simplest form.

3. The ratio of wins to losses for a baseball team is 3:1. If the team played 20 games total, how many games did they win and how many did they lose?

4. Match each description with the correct ratio. A science class has 8 frogs and 10 lizards in a terrarium.
____ Frogs to lizards
____ Lizards to total animals
____ Frogs to total animals
 - a) $8:18 = 4:9$
 - b) $10:18 = 5:9$
 - c) $8:10 = 4:5$

5. The ratio of boys to girls in a sixth-grade class is 4:5. There are 20 girls in the class. How many boys are there? How many students are in the class total?

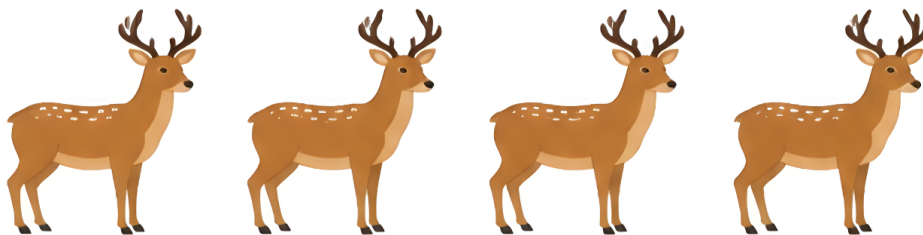
6. A local animal shelter has the following animals available for adoption:

Animal	Number Available
Dogs	24
Cats	16
Rabbits	8

Using the table above:

- Write the ratio of dogs to cats in simplest form.
 - Write the ratio of rabbits to the total number of animals in simplest form.
 - Write the ratio of cats to rabbits in simplest form.
7. The ratio of red marbles to blue marbles in a bag is 3:2, and the ratio of red marbles to green marbles is 3:5. Jordan says the ratio of blue marbles to green marbles must be 2:5. Is Jordan correct? Explain your reasoning.
8. In last year's student council election at Lincoln Middle School, 40 students voted for Maya, 25 voted for Carlos, and 15 voted for Priya.
- Write the ratio of votes for Maya to votes for Carlos in simplest form.
 - Write the ratio of votes for Priya to the total votes cast in simplest form.
 - Which two candidates had a ratio of votes closest to 1:1? Explain how you know.

9. A wildlife researcher counted animals along a trail in a national park and recorded the results below.



4 Deer



6 Squirrels

Using the information shown:

- Write the ratio of deer to squirrels in simplest form.
 - Write the ratio of squirrels to all animals counted in simplest form.
 - If the researcher counted animals along a second trail and found the same ratio of deer to squirrels, but counted 15 squirrels, how many deer would she expect to find?
10. The ratio 6:9 and the ratio 4:6 represent the same relationship.
True or False? Explain your answer by simplifying both ratios.
11. A pancake recipe uses 3 cups of flour, 1 cup of sugar, and 2 cups of milk. Alex wants to make a triple batch.
- Write the part-to-part ratio of flour to milk in the original recipe.
 - Write the ratio of sugar to the total ingredients in the original recipe in simplest form.
 - After tripling the batch, does the ratio of flour to milk change? Explain why or why not.

- 12.** A football team completed 21 passes and had 9 incomplete passes during a game.
- a) Write the ratio of completed passes to incomplete passes in simplest form.
 - b) Write the ratio of incomplete passes to total pass attempts in simplest form.
 - c) The coach said, “We complete about 2 passes for every 1 incomplete.” Is the coach's statement accurate based on the data? Show your work.
- 13.** A bag of trail mix contains 10 almonds, 15 raisins, and 5 chocolate chips. Write each of the following ratios in simplest form:
- a) Almonds to raisins
 - b) Chocolate chips to almonds
 - c) Raisins to the total number of pieces
- 14.** A sixth grader wrote the following: “In a class with 12 girls and 8 boys, the ratio of girls to the whole class is 12:8.” Identify the error in this statement and write the correct ratio in simplest form.
- 15.** At a school fundraiser, for every \$3 raised by the sixth grade, the seventh grade raised \$5. The sixth grade raised \$180 total. How much did the seventh grade raise? Write the ratio of sixth-grade earnings to seventh-grade earnings in simplest form and confirm it matches the original ratio.

Answer Key

1. c) 2:5

Lemon juice is listed first, water second. The ratio of lemon juice to water is 2:5.

2. Tomato plants to pepper plants: $18:12 \rightarrow \text{GCF} = 6 \rightarrow 3:2$

Total plants = $18 + 12 = 30$

Pepper plants to total: $12:30 \rightarrow \text{GCF} = 6 \rightarrow 2:5$

3. The ratio of wins to losses is 3:1, meaning 3 wins for every 1 loss, so in every 4 games, 3 are wins and 1 is a loss.

$20 \div 4 = 5$ groups

Wins: $3 \times 5 = 15$ **games won**

Losses: $1 \times 5 = 5$ **games lost**

4. c) Frogs to lizards: $8:10 = 4:5$

b) Lizards to total: $10:18 = 5:9$

a) Frogs to total: $8:18 = 4:9$

5. The ratio of boys to girls is 4:5. Since there are 20 girls:

$5 \times 4 = 20 \rightarrow$ scale factor is 4

Boys: $4 \times 4 = 16$ **boys**

Total students: $16 + 20 = 36$ **students**

6. Total animals = $24 + 16 + 8 = 48$

a) Dogs to cats: $24:16 \rightarrow \text{GCF} = 8 \rightarrow 3:2$

b) Rabbits to total: $8:48 \rightarrow \text{GCF} = 8 \rightarrow 1:6$

c) Cats to rabbits: $16:8 \rightarrow \text{GCF} = 8 \rightarrow 2:1$

7. Yes, Jordan is correct.

The ratio of red to blue is 3:2 and the ratio of red to green is 3:5.

Since red is the same value (3) in both ratios, blue to green can be directly compared: 2:5.

Jordan's reasoning is accurate because the ratios share a common reference quantity (red = 3).

8. Total votes = $40 + 25 + 15 = 80$

a) Maya to Carlos: $40:25 \rightarrow \text{GCF} = 5 \rightarrow 8:5$

b) Priya to total: $15:80 \rightarrow \text{GCF} = 5 \rightarrow 3:16$

c) Carlos and Priya had 25 and 15 votes respectively (ratio $25:15 = 5:3$).

Maya and Carlos had $40:25 = 8:5$.

Carlos and Priya are closest to 1:1 because $5:3 \approx 1.67:1$, while $8:5 = 1.6:1$.

Actually, comparing both simplified: $8:5 = 1.6$ and $5:3 \approx 1.67$ —

Maya and Carlos (8:5) have the closest ratio to 1:1 of any two candidates.

9. a) Deer to squirrels: $4:6 \rightarrow \text{GCF} = 2 \rightarrow 2:3$

b) Total animals = $4 + 6 = 10$; Squirrels to total: $6:10 \rightarrow \text{GCF} = 2 \rightarrow 3:5$

c) Ratio of deer to squirrels is 2:3. If there are 15 squirrels:

$3 \times 5 = 15 \rightarrow$ scale factor is 5

Deer: $2 \times 5 = 10$ deer

10. False.

$6:9 \rightarrow \text{GCF} = 3 \rightarrow$ simplifies to 2:3

$4:6 \rightarrow \text{GCF} = 2 \rightarrow$ simplifies to 2:3

Both simplify to 2:3, so the statement is actually True.

The two ratios ARE equivalent.

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- 11.** A cake recipe calls for 3 cups of flour, 1 cup of sugar, and 2 cups of milk.
- a)** What is the ratio of flour to milk in the original recipe?
 - b)** What is the ratio of sugar to the total amount of all ingredients in the original recipe?
 - c)** If the recipe is tripled, does the ratio of flour to milk change? Explain why or why not.
- 12.** In a basketball practice, a team completed 21 passes and had 9 incomplete passes.
- a)** What is the ratio of completed passes to incomplete passes in simplest form?
 - b)** What is the ratio of incomplete passes to the total number of pass attempts in simplest form?
 - c)** The coach said, "We had about 2 completed passes for every 1 incomplete pass." Is this statement precisely accurate? Explain your reasoning.
- 13.** A bag of trail mix contains 10 almonds, 15 raisins, and 5 chocolate chips.
- a)** What is the ratio of almonds to raisins in simplest form?
 - b)** What is the ratio of chocolate chips to almonds in simplest form?
 - c)** What is the ratio of raisins to the total number of pieces in the bag in simplest form?
- 14.** A class has 12 girls and 8 boys. A student says the ratio of girls to the whole class is 12:8. What is the error in the student's reasoning? What is the correct ratio of girls to the whole class in simplest form?
- 15.** The sixth grade class raised \$180 for a charity fundraiser. The ratio of money raised by the sixth grade to the seventh grade is 3:5.
- a)** How much money did the seventh grade raise?
 - b)** What is the ratio of the amount raised by the sixth grade to the amount raised by the seventh grade in simplest form?
 - c)** Does the ratio from part (b) match the original ratio of 3:5? Explain.
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