What Is a Ratio?

Name: _____	Date: _____	Score: _____ / 24

Quick Review

A **ratio** compares two amounts. If a fruit bowl has 4 apples and 6 oranges, the ratio of apples to oranges is $4:6$. You can write a ratio three ways: with a colon $4:6$, with the word "to" (4 to 6), or as a fraction $\frac{4}{6}$. To put a ratio in **simplest form**, divide both numbers by their greatest common factor — just like reducing a fraction. So $4:6$ becomes $2:3$. **Order matters**: $2:3$ is not the same as $3:2$, so always read carefully which amount comes first.

◇ **Example:** Write the ratio of 6 to 9 in simplest form.

⇒ Start with the ratio $6:9$. Now ask: what is the biggest number that divides into both 6 and 9 evenly? Both are divisible by 3, so 3 is our greatest common factor. Divide each part by 3: $6 \div 3 = 2$ and $9 \div 3 = 3$. That gives us $2:3$. We can check by scaling back up — $2 \times 3 = 6$ and $3 \times 3 = 9$, so it matches the original.

Answer: $2:3$

PRACTICE

Write each ratio in simplest form.

1. Ratio of 6 to 9 _____
2. Ratio of 4 to 8 _____
3. Ratio of 10 to 15 _____
4. Ratio of 12 to 18 _____
5. Ratio of 9 to 12 _____
6. Ratio of 8 to 20 _____
7. Ratio of 14 to 21 _____
8. Ratio of 25 to 35 _____
9. Ratio of 16 to 24 _____
10. Ratio of 15 to 40 _____
11. Ratio of 18 to 30 _____
12. Ratio of 24 to 36 _____
13. Ratio of 21 to 28 _____
14. Ratio of 30 to 45 _____
15. Ratio of 27 to 36 _____
16. Ratio of 40 to 16 _____
17. Ratio of 35 to 14 _____
18. Ratio of 48 to 60 _____
19. Ratio of 45 to 27 _____
20. Ratio of 28 to 49 _____

♦ Word Problems

21. A classroom has 12 boys and 18 girls. Write the ratio of boys to girls in simplest form. _____
22. A smoothie recipe uses 8 strawberries and 20 blueberries. Write the ratio of strawberries to blueberries in simplest form. _____
23. A parking lot has 24 cars and 36 trucks. Write the ratio of cars to trucks in simplest form. _____
24. A box of crayons has 15 warm colors and 40 cool colors. Write the ratio of warm colors to cool colors in simplest form. _____

Answer Keys

1. $2:3$	**13.** $3:4$
2. $1:2$	**14.** $2:3$
3. $2:3$	**15.** $3:4$
4. $2:3$	**16.** $5:2$
5. $3:4$	**17.** $5:2$
6. $2:5$	**18.** $4:5$
7. $2:3$	**19.** $5:3$
8. $5:7$	**20.** $4:7$
9. $2:3$	**21.** $2:3$
10. $3:8$	**22.** $2:5$
11. $3:5$	**23.** $2:3$
12. $2:3$	**24.** $3:8$

Step-by-Step Explanations

1. Both 6 and 9 divide by 3, giving $2:3$.
2. Divide both by 4: $4 \div 4 = 1$ and $8 \div 4 = 2$, so $1:2$.
3. The greatest common factor of 10 and 15 is 5, giving $2:3$.
4. Both divide by 6: $12 \div 6 = 2$ and $18 \div 6 = 3$.
5. Divide both by 3 to get $3:4$.
6. The greatest common factor is 4, so $8:20$ becomes $2:5$.
7. Both share the factor 7, giving $2:3$.
8. Divide both by 5: $25 \div 5 = 5$ and $35 \div 5 = 7$.
9. The greatest common factor of 16 and 24 is 8, giving $2:3$.
10. Both divide by 5: $15 \div 5 = 3$ and $40 \div 5 = 8$.
11. The greatest common factor is 6, so $18:30$ becomes $3:5$.
12. Divide both by 12 to get $2:3$.
13. Both share the factor 7, giving $3:4$.
14. The greatest common factor of 30 and 45 is 15, giving $2:3$.
15. Both divide by 9: $27 \div 9 = 3$ and $36 \div 9 = 4$.
16. The greatest common factor is 8, so $40:16$ becomes $5:2$. Order matters — 40 comes first.
17. Both share the factor 7: $35 \div 7 = 5$ and $14 \div 7 = 2$.
18. The greatest common factor of 48 and 60 is 12, giving $4:5$.
19. Both divide by 9: $45 \div 9 = 5$ and $27 \div 9 = 3$.
20. Both share the factor 7: $28 \div 7 = 4$ and $49 \div 7 = 7$.
21. The ratio of boys to girls is $12:18$. Both numbers divide by 6, so $12 \div 6 = 2$ and $18 \div 6 = 3$, giving $2:3$.
22. Start with $8:20$. The greatest common factor of 8 and 20 is 4, so divide both by 4 to get $2:5$.
23. The ratio is $24:36$. Both divide by 12, so $24 \div 12 = 2$ and $36 \div 12 = 3$, giving $2:3$.
24. Start with $15:40$. Both numbers divide by 5, so $15 \div 5 = 3$ and $40 \div 5 = 8$, giving $3:8$.

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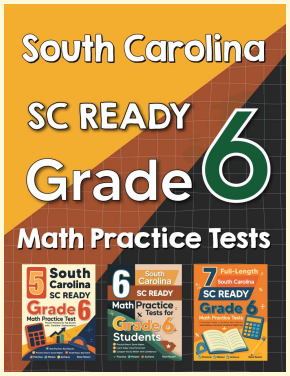

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