SKILL 2: Adding Fractions with Like Denominators

Two fractions with the same denominator have **like denominators**.

When adding fractions with like denominators, the denominator acts like a label. It tells you how many equal-size pieces make up a whole. The numerators are the number of pieces you add.

Example 1

Add: $\frac{5}{8} + \frac{1}{8}$. Write the sum in simplest form.

Add numerators only.

The denominators do not change.

Write in simplest form.

$$\frac{5}{8} + \frac{1}{8} = \frac{5+1}{8}$$
$$= \frac{6}{8}$$
$$= \frac{3}{4}$$

So, $\frac{5}{8} + \frac{1}{8} = \frac{3}{4}$.

Example 2

Add: $\frac{5}{6} + \frac{3}{6}$. Write the sum in the simplest form.

Add the numerators only.

The denominators do not change.

Write in simplest form.

Write as a mixed number.

$$\frac{5}{6} + \frac{3}{6} = \frac{5+3}{6}$$
$$= \frac{8}{6}$$
$$= \frac{8 \div 2}{6 \div 2}$$
$$= \frac{4}{3}$$

So, $\frac{5}{6} + \frac{3}{6} = 1\frac{1}{3}$.

$$\begin{array}{r} 1\frac{1}{3} \\ 3\overline{)4} \\ \underline{3} \\ 1 \end{array}$$

To change $\frac{4}{3}$ to a mixed number, divide 4 by 3.

Guided Practice

Find each sum in simplest form.

1. $\frac{5}{12} + \frac{5}{12} = \frac{\boxed{} + \boxed{}}{12} = $ _____ = _____

2. $\frac{7}{8} + \frac{3}{8} = \frac{\boxed{} + \boxed{}}{8} = $ _____ = _____ = _____

3. $\frac{1}{5} + \frac{2}{5} = $ _____

4. $\frac{5}{9} + \frac{6}{9} = $ _____

5. $\frac{13}{24} + \frac{5}{24} = $ _____

SKILL 2: Practice

Find each sum in simplest form.

1. $\frac{3}{20} + \frac{1}{20} =$ _____   2. $\frac{6}{15} + \frac{4}{15} =$ _____   3. $\frac{3}{4} + \frac{3}{4} =$ _____   4. $\frac{6}{8} + \frac{3}{8} =$ _____

5. $\frac{2}{13} + \frac{3}{13} =$ _____   6. $\frac{6}{8} + \frac{5}{8} =$ _____   7. $\frac{3}{15} + \frac{10}{15} =$ _____   8. $\frac{8}{10} + \frac{4}{10} =$ _____

9. $\frac{7}{14} + \frac{3}{14} =$ _____   10. $\frac{1}{4} + \frac{1}{4} =$ _____   11. $\frac{6}{7} + \frac{1}{7} =$ _____   12. $\frac{14}{19} + \frac{5}{19} =$ _____

13. $\frac{5}{6} + \frac{5}{6} =$ _____   14. $\frac{2}{3} + \frac{1}{3} =$ _____   15. $\frac{15}{18} + \frac{4}{18} =$ _____   16. $\frac{10}{15} + \frac{6}{15} =$ _____

17. $\frac{7}{11} + \frac{3}{11} =$ _____   18. $\frac{4}{10} + \frac{6}{10} =$ _____   19. $\frac{2}{4} + \frac{3}{4} =$ _____   20. $\frac{13}{20} + \frac{5}{20} =$ _____
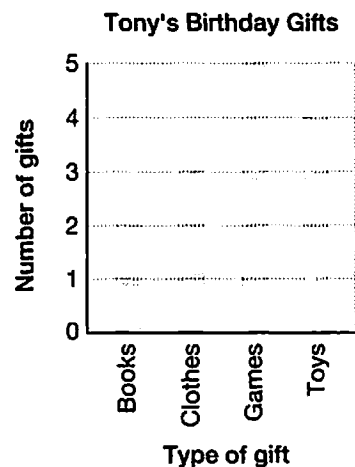
21. $\frac{1}{4} + \frac{2}{4} =$ _____   22. $\frac{5}{6} + \frac{1}{6} =$ _____   23. $\frac{2}{5} + \frac{4}{5} =$ _____   24. $\frac{5}{9} + \frac{8}{9} =$ _____

Each of the 14 guests at Tony's birthday party brought a gift. The bar graph shows the types of gifts that Tony received. Use the graph for Exercises 25–27. Write each answer in simplest form.

25. What fraction of the gifts were books or games? _____

26. What fraction of the gifts were clothes, games, or toys? _____

27. What fraction of the guests brought books or toys? _____

Tony's Birthday Gifts

Number of gifts — Type of gift (Books, Clothes, Games, Toys)

TEST PREP

28. Find $\frac{7}{12} + \frac{3}{12}$ in simplest form.

Skill 2

A $\frac{1}{2}$ C $\frac{5}{4}$

B $\frac{2}{3}$ D $\frac{5}{6}$

29. Which of the following is the best estimate of $5\frac{1}{9} - 2\frac{7}{8}$?

Skill 1

F 2   H 3

G 4   J 7