Adding and Subtracting Fractions TEKS *7.2.B*

To add or subtract two fractions with the same denominator, write the sum or difference of the numerators over the denominator.

Sum and Difference Rules ($c \neq 0$)

$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c} \qquad \frac{a}{c} - \frac{b}{c} = \frac{a-b}{c}$$

EXAMPLE Add or subtract: a. $\frac{1}{10} + \frac{3}{10}$ b. $\frac{7}{8} - \frac{3}{8}$

a. $\frac{1}{10} + \frac{3}{10} = \frac{4}{10}$ **Add numerators.**   b. $\frac{7}{8} - \frac{3}{8} = \frac{4}{8}$ **Subtract numerators.**

$= \frac{2}{5}$ **Simplify.** $= \frac{1}{2}$ **Simplify.**

The **least common denominator (LCD)** of two fractions is the least common multiple of the denominators. To add or subtract two fractions with different denominators, use the LCD of the fractions to write equivalent fractions that have the same denominator.

EXAMPLE Add: $\frac{1}{4} + \frac{5}{6}$

The LCD of the fractions is 12, so write $\frac{1}{4}$ as $\frac{1 \times 3}{4 \times 3} = \frac{3}{12}$ and $\frac{5}{6}$ as $\frac{5 \times 2}{6 \times 2} = \frac{10}{12}$.

$\frac{1}{4} + \frac{5}{6} = \frac{3}{12} + \frac{10}{12}$ **Write equivalent fractions.**

$= \frac{13}{12}$ **Add.**

$= 1\frac{1}{12}$ **Write as a mixed number.**

PRACTICE

Add or subtract.

1. $\frac{1}{16} + \frac{3}{16}$ 2. $\frac{1}{5} + \frac{2}{5}$ 3. $\frac{7}{12} - \frac{5}{12}$ 4. $\frac{2}{3} - \frac{1}{3}$ 5. $\frac{5}{8} + \frac{3}{8}$

6. $\frac{3}{4} + \frac{3}{4}$ 7. $\frac{7}{8} - \frac{3}{8}$ 8. $\frac{17}{20} + \frac{9}{20}$ 9. $\frac{7}{10} + \frac{1}{2}$ 10. $\frac{3}{10} + \frac{3}{5}$

11. $\frac{3}{8} - \frac{3}{16}$ 12. $\frac{1}{3} + \frac{1}{10}$ 13. $\frac{7}{12} - \frac{1}{16}$ 14. $\frac{2}{3} - \frac{1}{4}$ 15. $\frac{5}{6} + \frac{7}{8}$

16. $\frac{3}{4} - \frac{5}{8}$ 17. $\frac{3}{4} - \frac{1}{5}$ 18. $\frac{5}{12} + \frac{2}{3}$ 19. $1 - \frac{1}{5}$ 20. $4 - \frac{3}{16}$

21. $2\frac{5}{8} + 4\frac{1}{8}$ 22. $2\frac{9}{10} - 1\frac{7}{10}$ 23. $1\frac{5}{6} + 3\frac{1}{6}$ 24. $2\frac{1}{2} + 2\frac{3}{8}$ 25. $1\frac{3}{4} - \frac{11}{16}$