NAME _____ DATE _____

5-5 Adding and Subtracting Unlike Fractions (Pages 244–247)

You can add or subtract fractions with unlike denominators by renaming them with a common denominator. One way to rename unlike fractions is to use the LCD (least common denominator).

EXAMPLES

A Solve $a = 2\frac{3}{4} + 5\frac{2}{3}$.

$a = 2\frac{3}{4} \cdot \frac{3}{3} + 5\frac{2}{3} \cdot \frac{4}{4}$	*The LCD is 2 · 2 · 3 or 12.*
$a = 2\frac{9}{12} + 5\frac{8}{12}$	*Rename each fraction with the LCD.*
$a = 7\frac{17}{12}$	*Add the whole numbers and then the like fractions.*
$a = 7 + 1\frac{5}{12}$ *or* $8\frac{5}{12}$	*Rename* $\frac{17}{12}$ *as* $1\frac{5}{12}$

B Solve $x = 8\frac{2}{5} - 2\frac{9}{10}$.

$x = 8\frac{4}{10} - 2\frac{9}{10}$	*The LCD is 10. Rename the fractions.*
$x = 7\frac{14}{10} - 2\frac{9}{10}$	*Rename* $8\frac{4}{10}$ *as* $7 + 1\frac{4}{10}$ *or* $7\frac{14}{10}$
$x = 5\frac{5}{10}$ *or* $5\frac{1}{2}$	*Subtract and simplify.*

Try These Together

1. Solve $a = \frac{2}{3} + \frac{1}{12}$. Write the solution in simplest form.
HINT: The LCD of 3 and 12 is 12.

2. Solve $x = \frac{5}{8} - \frac{1}{3}$. Write the solution in simplest form.
HINT: The LCD of 8 and 3 is 24.

PRACTICE

Solve each equation. Write the solution in simplest form.

3. $y = \frac{13}{21} - \frac{1}{3}$ **4.** $\frac{3}{20} - \frac{1}{2} = n$ **5.** $c = \frac{11}{15} + \frac{2}{5}$

6. $1\frac{1}{6} - \frac{1}{2} = p$ **7.** $g = 3\frac{4}{5} + 1\frac{1}{10}$ **8.** $8\frac{2}{9} - \frac{1}{3} = d$

9. $m = \frac{1}{2} + \frac{3}{5}$ **10.** $\frac{2}{3} - \frac{1}{2} = q$ **11.** $t = \frac{5}{6} - \frac{3}{10}$

12. $1\frac{1}{2} + 2\frac{1}{6} = j$ **13.** $3\frac{2}{5} - 2\frac{1}{6} = w$ **14.** $h = \frac{3}{50} + \frac{2}{25}$

Evaluate each expression if $x = \frac{1}{2}$, $y = -\frac{2}{3}$, and $z = \frac{3}{4}$. Write in simplest form.

15. $z - x$ **16.** $x + y + z$ **17.** $x - y - z$

18. **Standardized Test Practice** Simplify the expression $\frac{3}{8} + \frac{1}{2} + \frac{1}{2}$.

A $1\frac{5}{8}$ **B** $1\frac{3}{8}$ **C** $\frac{9}{8}$ **D** $\frac{7}{8}$

Answers: 1. $\frac{3}{4}$ 2. $\frac{7}{24}$ 3. $\frac{2}{7}$ 4. $-\frac{7}{20}$ 5. $1\frac{2}{15}$ 6. $\frac{2}{3}$ 7. $4\frac{9}{10}$ 8. $7\frac{8}{9}$ 9. $1\frac{1}{10}$ 10. $\frac{1}{6}$ 11. $\frac{8}{15}$ 12. $3\frac{2}{3}$ 13. $1\frac{7}{30}$ 14. $\frac{7}{50}$ 15. $\frac{1}{4}$ 16. $\frac{7}{12}$ 17. $\frac{5}{12}$ 18. B