NAME _____ DATE _____ PERIOD _____

5-7 Study Guide and Intervention

Dividing Fractions and Mixed Numbers

To divide by a fraction, multiply by its multiplicative inverse or reciprocal. To divide by a mixed number, rename the mixed number as an improper fraction.

Example 1 **Find $3\frac{1}{3} \div \frac{2}{9}$. Write in simplest form.**

$3\frac{1}{3} \div \frac{2}{9} = \frac{10}{3} \div \frac{2}{9}$ Rename $3\frac{1}{3}$ as an improper fraction.

$= \frac{10}{3} \cdot \frac{9}{2}$ Multiply by the reciprocal of $\frac{2}{9}$, which is $\frac{9}{2}$.

$= \frac{\overset{5}{\cancel{10}}}{\underset{1}{\cancel{3}}} \cdot \frac{\overset{3}{\cancel{9}}}{\underset{1}{\cancel{2}}}$ Divide out common factors.

$= 15$ Multiply.

Exercises

Divide. Write in simplest form.

1. $\frac{2}{3} \div \frac{1}{4}$ $2\frac{2}{3}$
2. $\frac{2}{5} \div \frac{5}{6}$ $\frac{12}{25}$
3. $\frac{1}{2} \div \frac{1}{5}$ $2\frac{1}{2}$
4. $5 \div \frac{1}{2}$ 10
5. $\frac{5}{8} \div 10$ $\frac{1}{16}$
6. $7\frac{1}{3} \div 2$ $3\frac{2}{3}$
7. $\frac{5}{6} \div 3\frac{1}{2}$ $\frac{5}{21}$
8. $36 \div 1\frac{1}{2}$ 24
9. $2\frac{1}{2} \div 10$ $\frac{1}{4}$
10. $5\frac{2}{5} \div 1\frac{4}{5}$ 3
11. $6\frac{2}{3} \div 3\frac{1}{9}$ $2\frac{1}{7}$
12. $4\frac{1}{4} \div \frac{3}{8}$ $11\frac{1}{3}$
13. $4\frac{6}{7} \div 2\frac{3}{7}$ 2
14. $12 \div 2\frac{1}{2}$ $4\frac{4}{5}$
15. $4\frac{1}{6} \div 3\frac{1}{6}$ $1\frac{6}{19}$