NAME _____ DATE _____ PERIOD _____

5-10 Study Guide and Intervention

Dividing Mixed Numbers

To divide mixed numbers, express each mixed number as an improper fraction. Then divide as with fractions.

Example 1 **Find $2\frac{2}{3} \div 1\frac{1}{5}$.** **Estimate:** $3 \div 1 = 3$

$2\frac{2}{3} \div 1\frac{1}{5} = \frac{8}{3} \div \frac{6}{5}$ Write mixed numbers as improper fractions.

$= \frac{8}{3} \times \frac{5}{6}$ Multiply by the reciprocal, $\frac{5}{6}$.

$= \frac{\overset{4}{\cancel{8}} \times 5}{3 \times \underset{3}{\cancel{6}}}$ Divide 8 and 6 by the GCF, 2.

$= \frac{20}{9}$ or $2\frac{2}{9}$ Simplify. Compare to the estimate.

Example 2 **Find the value of $s \div t$ if $s = 1\frac{2}{3}$ and $t = \frac{3}{4}$.**

$s \div t = 1\frac{2}{3} \div \frac{3}{4}$ Replace s with $1\frac{2}{3}$ and t with $\frac{3}{4}$.

$= \frac{5}{3} \div \frac{3}{4}$ Write $1\frac{2}{3}$ as an improper fraction.

$= \frac{5}{3} \times \frac{4}{3}$ Multiply by the reciprocal, $\frac{4}{3}$.

$= \frac{20}{9}$ or $2\frac{2}{9}$ Simplify.

Exercises

Divide. Write in simplest form.

1. $2\frac{1}{2} \div \frac{4}{5}$ **2.** $1\frac{2}{3} \div 1\frac{1}{4}$ **3.** $5 \div 1\frac{3}{7}$ **4.** $2\frac{1}{3} \div \frac{7}{9}$

5. $5\frac{2}{5} \div \frac{9}{10}$ **6.** $7\frac{1}{2} \div 1\frac{2}{3}$ **7.** $3\frac{5}{6} \div 2$ **8.** $2\frac{1}{4} \div \frac{2}{7}$

9. $9 \div 1\frac{1}{9}$ **10.** $\frac{4}{5} \div 2\frac{6}{7}$ **11.** $1\frac{8}{9} \div 5$ **12.** $\frac{3}{8} \div 2\frac{1}{4}$

13. ALGEBRA If $x = 1\frac{1}{4}$ and $y = 3$, what is $x \div y$?

14. ALGEBRA Evaluate $18 \div t$ if $t = \frac{9}{11}$.

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