5.5 Key Concepts 2 Dividing Rational Numbers Worked Example

Example: Evaluate $1\frac{3}{5} \div \left(-1\frac{1}{3}\right)$.

Solution: Change the mixed numbers to improper fractions. Invert the second fraction and multiply. Divide numerators and denominators by any common factors. Multiply the numerators and denominators. Follow correct sign rules.

$$\begin{aligned} 1\frac{3}{5} \div \left(-1\frac{1}{3}\right) &= \frac{8}{5} \div \left(-\frac{4}{3}\right) \\ &= \frac{8}{5} \times \left(\frac{-3}{4}\right) \\ &= \frac{2}{5} \times \left(\frac{-3}{1}\right) \\ &= \frac{-6}{5} \\ &= -1\frac{1}{5} \end{aligned}$$

Practice:

1. Evaluate $-\frac{2}{9} \div \left(-2\frac{2}{3}\right)$.

2. Evaluate $\frac{3}{7} \div \left(-1\frac{13}{14}\right)$.

Answers: 1. $\frac{1}{12}$. 2. $-\frac{2}{9}$.