

Lesson 4.8 Divide Fractions

Objective: To divide fractions and mixed numbers.

Ex. 1 Find $\frac{1}{3} \div 5$.

$$\frac{1}{3} \div \frac{5}{1}$$

↓ ↓ ↓ ← The reciprocal.

$$\frac{1}{3} \times \frac{1}{5} = \frac{1 \times 1}{3 \times 5} = \boxed{\frac{1}{15}}$$

Ex. 2 Find $\frac{3}{4} \div \left(-\frac{1}{2}\right)$ Write in simplest form.

$$\frac{3}{4} \div \left(-\frac{1}{2}\right)$$

↓ ↓ ↓ ÷ 2 ①

$$\frac{3}{4} \times \left(-\frac{2}{1}\right) = \frac{3}{2} \times \left(-\frac{1}{1}\right) = \frac{3 \cdot (-1)}{2 \cdot 1} = \frac{-3}{2}$$

2 ÷ ②

$$2 \sqrt{\frac{3}{-2}} = \boxed{-1\frac{1}{2}}$$

Ex. 3 Find $\frac{2}{3} \div 3\frac{1}{3}$. Write in simplest form.

9 ÷ 3

$$3\frac{1}{3} = \frac{10}{3}$$

×

$$\frac{2}{3} \div \frac{10}{3}$$

↓ ↓ ↓ ← The reciprocal.

$$\frac{2}{3} \times \frac{3}{10} = \frac{2 \times 3}{3 \times 10} = \frac{6 \div 6}{30 \div 6} = \boxed{\frac{1}{5}}$$