

Ch. 2.2 notes Dividing Fractions

Reciprocal: Flipping the numerator and denominator.

$$\text{Ex: } \frac{3}{4} \begin{matrix} \nearrow \\ \searrow \end{matrix} = \frac{4}{3}$$

Practice * Write the reciprocal

$$\textcircled{1} \frac{2}{3} = \frac{3}{2}$$

$$\textcircled{2} \frac{1}{8} = \frac{8}{1} = 8$$

$$\textcircled{3} \frac{2}{5} = \frac{5}{2}$$

$$\textcircled{4} \frac{3}{10} = \frac{10}{3}$$

$$\textcircled{5} \frac{5}{1} = \frac{1}{5}$$

$$\textcircled{6} \frac{7}{1} = \frac{1}{7}$$

$$\textcircled{7} \frac{1}{3} = \frac{4}{3} = \frac{3}{4}$$

↑
improper

$$\textcircled{8} 2 \frac{1}{8} = \frac{17}{8} = \frac{8}{17}$$

↑
improper

$$\textcircled{9} 3 \frac{1}{4} = \frac{13}{4} = \frac{4}{13}$$

↑
improper

Steps to Dividing Fractions

- ① Write down the 1st fraction
- ② Change \div to \times
- ③ Flip the 2nd fraction ONLY
- ④ Multiply. Simplify

$$\textcircled{1} \frac{1}{8} \div \frac{1}{4}$$

$$\textcircled{2} \frac{1}{8}$$

$$\textcircled{3} \frac{1}{8} \cdot$$

$$\textcircled{4} \frac{1}{8} \cdot \frac{4}{1}$$

$$\textcircled{4} \frac{1}{8} \cdot \frac{4}{1} = \frac{4}{8} \stackrel{\leftarrow \text{simplify}}{\div 4} = \boxed{\frac{1}{2}}$$

Keep. Change. Flip

Practice

① $\frac{5}{6} \div \frac{2}{7}$ improper

$$\frac{5}{6} \cdot \frac{7}{2} = \frac{35}{12} = 2 \frac{11}{12}$$

$\times 2 \frac{11}{12}$

$$\begin{array}{r} 12 \overline{) 35} \\ \underline{24} \\ 11 \end{array}$$

d \uparrow 11 ← numerator

② $\frac{2}{5} \div \frac{8}{15}$

$$\frac{2}{5} \cdot \frac{15}{8} = \frac{30}{40} = \frac{3}{4}$$

(OR)

$$\frac{2}{5} \cdot \frac{15}{8} = \frac{30}{40} = \frac{3}{4}$$

③ $\frac{8}{15} \div \frac{2}{5}$ improper

$$\frac{8}{15} \cdot \frac{5}{2} = \frac{40}{30} = \frac{4}{3} = 1 \frac{1}{3}$$
$$\begin{array}{r} 1 \frac{1}{3} \\ 3 \overline{) 4} \\ \underline{-3} \\ 1 \end{array}$$

d \uparrow 1 ← n

④ $\frac{1}{3} \div \frac{1}{6}$

$$\frac{1}{3} \cdot \frac{6}{1} = \frac{6}{3} = 2$$
$$\begin{array}{r} 2 \\ 3 \overline{) 6} \\ \underline{-6} \\ 0 \end{array}$$

⑤ $\frac{3}{7} \div \frac{6}{1}$

$$\frac{3}{7} \cdot \frac{1}{6} = \frac{3}{42} = \frac{1}{14}$$
$$\begin{array}{r} 14 \\ 3 \overline{) 42} \\ \underline{-30} \\ 12 \\ \underline{-12} \\ 0 \end{array}$$

⑥ $\frac{12}{25} \div \frac{4}{1}$

$$\frac{12}{25} \cdot \frac{1}{4} = \frac{12}{100} = \frac{3}{25}$$

Ch. 2.2 Homework

Write the reciprocal.

① $\frac{5}{8}$

② $\frac{2}{3}$

③ 6

Divide. Simplify.

④ $\frac{1}{6} \div \frac{1}{3}$

⑤ $\frac{3}{5} \div \frac{2}{15}$

⑥ $10 \div \frac{2}{7}$

⑦ $\frac{5}{9} \div 15$

