

Lesson 9: Adding, Subtracting, Multiplying Fractions, Reciprocals

Shape: does it look the way it's supposed to?

Operate: + / - / × / ÷

Simplify: improper → proper
 reduced completely → mixed #'s

+ / -

Shape: Common denominator

Operate: $\frac{n}{d} + \frac{n}{d} = \frac{n+n}{d}$ $\frac{n-n}{d}$


$$\frac{1}{5} + \frac{2}{5} = \frac{1+2}{5} = \frac{3}{5}$$

$$W \frac{n}{d} + W \frac{n}{d} = W+W \frac{n+n}{d}$$

$$3\frac{1}{8} + 1\frac{2}{8} = 3 + 1\frac{1+2}{8}$$

$$\textcircled{4\frac{3}{8}}$$

$$\frac{1}{5} + \frac{3}{5} = \frac{4}{5}$$

$$3\frac{4}{7} - 2\frac{1}{7} = 1\frac{3}{7}$$

$$1\frac{3}{7}$$

$$\frac{3}{8} + \frac{2}{8} + \frac{7}{8} = \frac{3+2+7}{8}$$

$$= \frac{12}{8}$$

$$1\frac{4}{8} = \left(1\frac{1}{2}\right)$$

$$8 \overline{) 12} \\ \underline{8} \\ 4$$

x

Shape: fractions (proper/improper)

Operate: $\frac{n}{d} \times \frac{n}{d} = \frac{n \times n}{d \times d}$

$$\frac{1}{5} \times \frac{3}{4} = \frac{1 \times 3}{5 \times 4} = \left(\frac{3}{20} \right)$$

$$\frac{1}{2} \times \frac{1}{3} \times \frac{1}{5} = \frac{1 \times 1 \times 1}{2 \times 3 \times 5}$$

$$= \left(\frac{1}{30} \right)$$

$$\frac{1}{2} \times \frac{1}{4} \times \frac{1}{4}$$

$$\frac{1}{2} \times \frac{1}{4}$$

Reciprocals

invert a fraction

$$\frac{n}{d} \rightarrow \frac{d}{n}$$

inverse property

$$a \cdot \frac{1}{a} = 1$$

any # x reciprocal = 1

$$\frac{2}{3} \rightarrow \frac{3}{2}$$

$$\frac{2}{3} \times \frac{3}{2} = \frac{6}{6} = 1$$

$$\frac{4}{1} \rightarrow \frac{1}{4}$$

$$\frac{4}{1} \times \frac{1}{4} = \frac{4}{4} = 1$$

$2 + \frac{2}{3} \rightarrow$ reciprocal
 $\times \frac{3}{3} \rightarrow$ make into a fraction

$$\frac{8}{3} \rightarrow \frac{3}{8}$$

L9 : #1, 4, 6, 9, 11-24