

2.3 DIVIDING MIXED NUMBERS

ESSENTIAL QUESTION: How do you divide mixed numbers?

STEPS FOR DIVIDING MIXED NUMBERS

- 1) Bounce the ball (change mixed number to improper fraction)
- 2) Keep the first fraction.
- 3) Change division to multiplication.
- 4) Flip the 2nd fraction. (Find the reciprocal.)

EXAMPLE 1

Divide. Write in simplest form.

$$1) 2\frac{1}{4} \div \frac{3}{8}$$

$$2\frac{1}{4} = \frac{9}{4} \div \frac{3}{8}$$

$$\frac{9}{4} \cdot \frac{8}{3} = 6$$

$$2) 3\frac{5}{6} \div 1\frac{2}{3}$$

$$3\frac{5}{6} = \frac{23}{6} \div 1\frac{2}{3} = \frac{5}{3}$$

$$\frac{23}{6} \cdot \frac{3}{5} = \frac{23}{10} \text{ or } 2\frac{3}{10}$$

ON YOUR OWN

$$1) 1\frac{3}{7} \div \frac{2}{3}$$

$$1\frac{3}{7} = \frac{10}{7} \div \frac{2}{3}$$

$$\frac{10}{7} \cdot \frac{3}{2} = \frac{15}{7} = 2\frac{1}{7}$$

$$2) 2\frac{1}{6} \div \frac{3}{4}$$

$$2\frac{1}{6} = \frac{13}{6} \div \frac{3}{4}$$

$$\frac{13}{6} \cdot \frac{4}{3} = \frac{26}{9} = 2\frac{8}{9}$$

$$3) 8\frac{1}{4} \div 1\frac{1}{2}$$

$$8\frac{1}{4} = \frac{33}{4} \div 1\frac{1}{2} = \frac{3}{2}$$

$$\frac{33}{4} \cdot \frac{2}{3} = \frac{11}{2} = 5\frac{1}{2}$$

$$4) 6\frac{4}{5} \div 2\frac{1}{8}$$

$$6\frac{4}{5} = \frac{34}{5} \div 2\frac{1}{8} = \frac{17}{4}$$

$$\frac{34}{5} \cdot \frac{8}{17} = \frac{16}{5} = 3\frac{1}{5}$$

EXAMPLE 2

One serving of tortilla soup is $1\frac{2}{3}$ cups. A restaurant cook makes 50 cups of soup. Is there enough to serve 35 people? Explain.

$$50 \div 1\frac{2}{3}$$

$$50 \div \frac{5}{3}$$

$$\frac{50}{1} \cdot \frac{3}{5} = 30$$

No there is not because the 50 cups of soup will only serve 30 people



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$$2\frac{1}{4} \div \frac{3}{8}$$

$$2) 3\frac{5}{6} \div 1\frac{2}{3}$$

$$3\frac{5}{6} \div 1\frac{2}{3}$$

$$\frac{9}{4} \div \frac{3}{8}$$

$$\frac{23}{6} \div \frac{5}{3}$$

$$3\frac{9}{4} \cdot \frac{8}{3} = 6$$

$$\frac{23}{6} \cdot \frac{3}{5} = \frac{23}{10} \text{ or } 2\frac{3}{10}$$

ON YOUR OWN

$$1) 1\frac{3}{7} \div \frac{2}{3}$$

$$2) 2\frac{1}{6} \div \frac{3}{4}$$

$$3) 8\frac{1}{4} \div 1\frac{1}{2}$$

$$4) 6\frac{4}{5} \div 2\frac{1}{8}$$

$$1\frac{3}{7} \div \frac{2}{3}$$

$$2\frac{1}{6} \div \frac{3}{4}$$

$$8\frac{1}{4} \div 1\frac{1}{2}$$

$$6\frac{4}{5} \div 2\frac{1}{8}$$

$$\frac{10}{7} \div \frac{2}{3}$$

$$\frac{13}{6} \div \frac{3}{4}$$

$$\frac{33}{4} \div \frac{3}{2}$$

$$\frac{34}{5} \div \frac{17}{8}$$

$$\frac{10}{7} \cdot \frac{3}{2} = \frac{15}{7}$$

$$\frac{13}{6} \cdot \frac{4}{3} = \frac{26}{9}$$

$$\frac{33}{4} \cdot \frac{2}{3} = 11$$

$$\frac{34}{5} \cdot \frac{8}{17} = \frac{16}{5}$$

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