

# FRACTION REVIEW

Name: \_\_\_\_\_  
 Date: ~~Jan 31~~ Feb. 1/2

## Mixed Numbers ↔ Improper Fractions

$$3\frac{4}{5} = \frac{19}{5}$$

*(Handwritten: +, x, +, x)*

$$\frac{29}{4} = 7\frac{1}{4}$$

*(Handwritten: 4 goes into 29 7 times with 1 left over)*

$$5\frac{2}{3} = \frac{17}{3}$$

*(Handwritten: +, x, +, x)*

$$\frac{62}{11} = 5\frac{7}{11}$$

## Adding and Subtracting Fractions

You need a common denominator!

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

*(Handwritten: 2, 4, 8, 16, 24...)*

$$= \frac{4}{8} + \frac{3}{8}$$

$$= \frac{7}{8}$$

$$\frac{3}{4} - \frac{1}{6}$$

*(Handwritten: 3, 6, 12, 18...)*

$$= \frac{9}{12} - \frac{2}{12}$$

$$= \frac{7}{12}$$

$$2\frac{3}{5} + 6\frac{3}{4}$$

*(Handwritten: 3, 4, 5, 6, 12, 15, 20...)*

$$= 2\frac{12}{20} + 6\frac{15}{20}$$

$$= 8\frac{27}{20}$$

*(Handwritten: but this is improper!)*

$$= 8 + 1\frac{7}{20}$$

$$= 9\frac{7}{20}$$

$$3\frac{5}{6} - 1\frac{2}{9}$$

*(Handwritten: 3, 6, 9, 12, 18...)*

$$= 3\frac{15}{18} - 1\frac{4}{18}$$

$$= 2\frac{11}{18}$$

**MUST**

### Multiplying Fractions

Change mixed numbers to improper fractions first.

$$\begin{aligned}
 6 \times \frac{3}{4} &= \frac{6 \times 3}{1 \times 4} \\
 &= \frac{18}{4} \\
 &= 4 \frac{2 \div 2}{4 \div 2} \\
 &= \boxed{4 \frac{1}{2}}
 \end{aligned}$$

$$\begin{aligned}
 \frac{1}{2} \times 2 \frac{3}{8} &= \frac{1}{2} \times \frac{19}{8} \\
 &= \frac{19}{16} \\
 &= \boxed{1 \frac{3}{16}}
 \end{aligned}$$

then multiply  
num. x num.  
denom. x denom.

\* don't need a  
COMMON  
DENOMINATOR!

### Dividing Fractions

Change mixed numbers to improper fractions first. KEEP, CHANGE, FLIP.

first  
fraction

second  
fraction

$$\begin{aligned}
 \frac{7}{8} \div \frac{1}{4} &= \frac{7}{8} \times \frac{4}{1} \\
 &= \frac{7}{2} = \boxed{3 \frac{1}{2}}
 \end{aligned}$$

\* can simplify before we multiply

$$\begin{aligned}
 \frac{1}{2} \div \frac{3}{1} &= \frac{1}{2} \times \frac{1}{3} \\
 &= \boxed{\frac{1}{6}}
 \end{aligned}$$

$$\begin{aligned}
 2 \frac{4}{5} \div \frac{7}{1} &= \frac{14}{5} \div \frac{7}{1} \\
 &= \frac{14}{5} \times \frac{1}{7} \\
 &= \boxed{\frac{2}{5}}
 \end{aligned}$$

$$\begin{aligned}
 5 \frac{1}{4} \div 4 \frac{2}{3} &= \frac{21}{4} \div \frac{14}{3} \\
 &= \frac{21}{4} \times \frac{3}{14} \\
 &= \frac{9}{8} \\
 &= \boxed{1 \frac{1}{8}}
 \end{aligned}$$

$$\begin{aligned}
 \textcircled{\text{OR}} \quad \frac{21}{4} \times \frac{3}{4} &= \frac{63}{16} \\
 &= 1 \frac{7}{16} \div 7 \\
 &= 1 \frac{1}{8}
 \end{aligned}$$

if we don't  
simplify  
before we  
multiply