November 4, 2014 5th 6th

Starter

① $\dfrac{-30.51}{-9}$ ② $-0.6\overline{)5.244}$ ③ $-0.05\overline{)40}$

11/4 Multiplying Rational Numbers - FRACTIONS!

Method 1:
Multiply then simplify...

$$\frac{5}{6} \cdot \frac{9}{10}$$

$$= \frac{45 \div 5}{60 \div 5}$$

$$= \frac{9 \div 3}{12 \div 3}$$

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

Method 2:
Simplify then multiply...

$$\frac{5 \div 5}{6 \div 3} \cdot \frac{9 \div 3}{10 \div 5}$$

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

Multiply each... use either method.

$$\frac{2}{3} \cdot \frac{1}{4}$$

$$\frac{-4}{5} \cdot \frac{3}{5}$$

$$\overset{1}{\cancel{\frac{-3}{4}}} \cdot \frac{-5}{\underset{2}{\cancel{6}}}$$

(m1)

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

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

$$= \left(\frac{-12}{25}\right)$$

$$= \left(\frac{5}{8}\right)$$

(m2)

$$\frac{\cancel{2}^{1}}{3} \cdot \frac{1}{\cancel{4}_{2}}$$

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

Multiply...

$$-\frac{4}{1} \cdot \frac{2}{3}$$

$$= \frac{-8}{3}$$

$$= -2\frac{2}{3}$$

$$\frac{-9}{10} \cdot \frac{^-12}{1}$$

$$= \frac{54}{5}$$

$$= 10\frac{4}{5}$$

Multiplying Mixed Numbers....

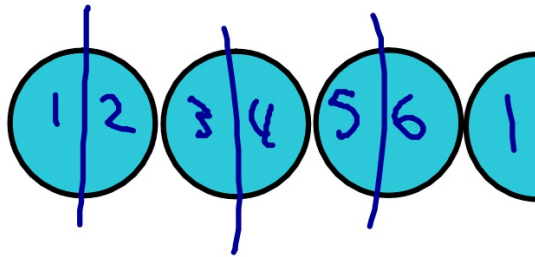What is always the first step?

Mixed numbers need to be changed to improper fractions!!

Add

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

Multiply

Multiply.   Write answer in simplest form – ALWAYS!

Top left:

$$-3\tfrac{5}{6} \cdot 4\tfrac{4}{5}$$

$$= \frac{-23}{6} \cdot \frac{24}{5}$$

$$= \frac{-92}{5} = 18\tfrac{2}{5}$$

(side work)
$$\begin{array}{r} 18\,4 \\ 5)\overline{92} \\ -5 \\ 42 \\ -40 \\ 2 \end{array}$$

Top right:

$$-2\tfrac{5}{8} \cdot -1\tfrac{5}{9}$$

$$= -\frac{21}{8} \cdot -\frac{14}{9}$$

$$= \frac{49}{12} = 4\tfrac{1}{12}$$

Bottom left:

$$\left(1\tfrac{1}{2}\right)\left(1\tfrac{1}{3}\right)\left(1\tfrac{5}{6}\right)$$

$$= \frac{3}{2} \cdot \frac{4}{3} \cdot \frac{11}{6}$$

$$= \frac{11}{3}$$

$$= 3\tfrac{2}{3}$$

Bottom right:

$$\left(-2\tfrac{1}{4}\right)\left(3\tfrac{5}{9}\right)\left(-4\tfrac{1}{6}\right)$$

$$= -\frac{9}{4} \cdot \frac{32}{9} \cdot \frac{-25}{6}$$

$$= \frac{100}{3}$$

$$= 33\tfrac{1}{3}$$

Homework

White WS 10

Due Thurs.