

Solving x/\div Equations with fractions

Remember: \times frac \rightarrow cancel diagonally using GCF

mult. numerators

mult. denominators

SF (improper OK)

\div frac \rightarrow keep change flip
keep 1st frac., change \div to \times ,
flip (reciprocal) 2nd frac.

mult. / SF

* Mixed #s \rightarrow MUST make improper | St!

$$1) \quad \left(\frac{8}{1}\right) \frac{x}{8} = 6\frac{3}{4} \cdot 8$$

$$3 \quad \boxed{x = 54}$$

$$4 \quad \frac{54}{8} = 6\frac{3}{4}$$

$$5 \quad 6\frac{3}{4} = 6\frac{3}{4}$$



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

$$\frac{27}{4} \cdot \frac{8^2}{1} = \frac{54}{1} = 54$$

$$\begin{array}{r} 6 \\ 8 \overline{) 54} \\ \underline{-48} \\ 6 \end{array} \quad 6\frac{6}{8} = 6\frac{3}{4}$$

2) $\frac{6}{1} \cdot \frac{2}{3} = \frac{12}{3}$ ~~$\frac{6}{1}$~~

1-2

3

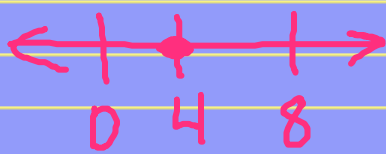
$4 = n$

4

✓ $\frac{2}{3} = \frac{4}{6}$

5

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



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

$2 \overline{) 46} = \frac{23}{3}$

3)
1-2

$$\left(\frac{2}{1}\right) \frac{W}{2} = 3\frac{3}{8} \cdot 2$$

3

$$W = \frac{27}{4}$$

4

$$\frac{\frac{27}{4}}{2} = 3\frac{3}{8}$$

5
Still means
÷

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



$$\frac{26}{4} \quad \frac{27}{4} \quad 7$$

$$3\frac{3}{8} \cdot 2$$

$$\frac{27}{4} \cdot \frac{2}{1} = \frac{27}{2}$$

$$\frac{27}{4} \div \frac{2}{1}$$

$$\frac{27}{4} \cdot \frac{1}{2} = \frac{27}{8} = 3\frac{3}{8}$$

$$\begin{array}{r} 3 \\ 8 \overline{) 27} \\ \underline{24} \\ 3 \end{array}$$

$$4)_{1,2} \quad \left(\frac{3}{2}\right) \frac{2}{3} n = \frac{5}{6} \cdot \frac{3}{2}$$

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

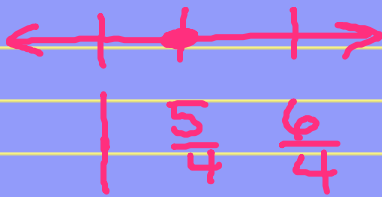
3

4

$$\frac{2}{3} \cdot \frac{5}{4} = \frac{5}{6}$$

5

$$\frac{5}{6} = \frac{5}{6}$$



Since they are mult. by $\frac{2}{3}$, must
 \div by $\frac{2}{3}$.

$$\frac{2}{3} \div \frac{2}{3} = \frac{2}{3} \cdot \frac{3}{2} = 1$$

* Just x by reciprocal!

$$\frac{5}{2} \cdot \frac{2}{2} = \frac{5}{4}$$

$$\frac{2}{3} \cdot \frac{5}{4} = \frac{5}{6}$$

$$5)_{1-2} \quad \left(\frac{19}{2}\right) \cdot \frac{3}{2} = 9\frac{1}{2} \cdot \frac{3}{2}$$

$$b = \frac{57}{4}$$

3

$$4 \quad \frac{2}{3} \cdot \frac{57}{4} = 9\frac{1}{2}$$

$$5 \quad 9\frac{1}{2} = 9\frac{1}{2}$$



$$\frac{56}{4} \quad \frac{57}{4} \quad \frac{58}{4}$$

$$9\frac{1}{2} \cdot \frac{3}{2}$$

$$\frac{19}{2} \cdot \frac{3}{2} = \frac{57}{4}$$

$$\frac{2}{3} \cdot \frac{57}{4} = \frac{19}{2} = 9\frac{1}{2}$$

$$\begin{array}{r} 9 \\ 2 \overline{) 19} \\ \underline{18} \\ 1 \end{array}$$

6)

$$3\frac{2}{3} p = 1\frac{7}{15}$$

1-2

$$\left(\frac{3}{11}\right) \cdot \frac{11}{3} p = 1\frac{7}{15} \cdot \frac{3}{11}$$

3

$$p = \frac{2}{5}$$

4

$$\frac{11}{3} \cdot \frac{2}{5} = 1\frac{7}{15}$$

5

$$1\frac{7}{15} = 1\frac{7}{15}$$



$$\frac{1}{5} \quad \frac{2}{5} \quad \frac{3}{5}$$

* make $3\frac{2}{3}$ improper ~~1~~

$$3\frac{2}{3} = \frac{11}{3}$$

$$1\frac{7}{15} \cdot \frac{3}{11}$$

$$\frac{2 \cdot 22}{5 \cdot 15} \cdot \frac{3}{11} = \frac{2}{5}$$

$$\frac{11}{3} \cdot \frac{2}{5} = \frac{22}{15} = 1\frac{7}{15}$$



