

Sept. 6, 2017

MPMID - Mr. Sadler

Please take out your HW  
to be checked!

## Warmup

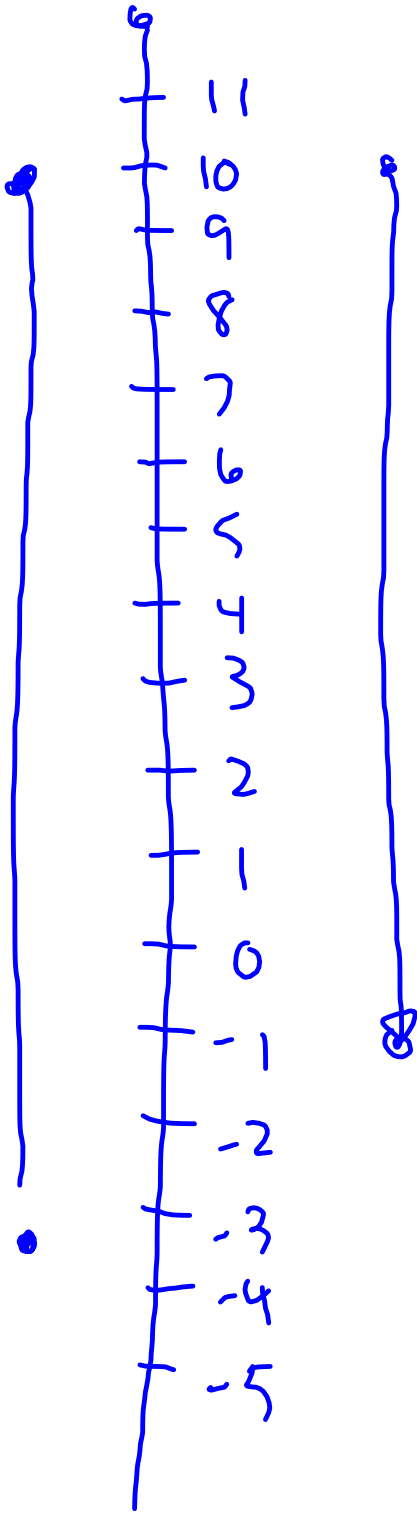
$$\begin{aligned} \text{a)} \quad & -2 - (-3) + (-4) - (-5) \\ & = -2 + 3 - 4 + 5 \\ & = 1 - 4 + 5 \\ & = \boxed{2} \end{aligned}$$

$$\begin{aligned} \text{b)} \quad & \frac{14 \cdot (-3)}{-2} = \frac{-42}{-2} \\ & = \boxed{21} \end{aligned}$$

2c) 81, -27, 9, -3, 1  
divide by -3

2d) 5, -20, 80, -320, 1280  
multiply by -4

+13



1 1

$$-3 + 13 - 11$$

$$= \boxed{-1}$$

---

$$8 - 22 = \boxed{-14}$$

Sept. 6, 2017

## Fractions

To make a fraction in lowest terms, divide the numerator and denominator by factors.

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

3 ← numerator  
4 ← denominator

Ex. 1 : Bring to lowest terms

a)  $\frac{18}{20} \begin{matrix} \div 2 \\ = \\ \div 2 \end{matrix} \boxed{\frac{9}{10}}$

b)  $\frac{125}{100} \begin{matrix} \div 25 \\ = \\ \div 25 \end{matrix} \boxed{\frac{5}{4}}$

c)  $\frac{9}{30} \begin{matrix} \div 3 \\ = \\ \div 3 \end{matrix} \boxed{\frac{3}{10}}$

$$d) \frac{2400}{3600} \div 100$$

$$= \frac{24 \div 2}{36 \div 2} = \frac{12}{18} \div 2$$

$$= \frac{6 \div 3}{9 \div 3} = \boxed{\frac{2}{3}}$$



# Improper Fractions

This is when the numerator is bigger than the denominator. This is the preferred method in high school.

Ex.2 Bring to improper

a)

$$2\frac{1}{2} = \boxed{\frac{5}{2}}$$

"2 times 2 + 1"

b)

$$8\frac{2}{5} = \boxed{\frac{42}{5}}$$

c)  $3 \frac{1}{8}$



$$= \boxed{\frac{25}{8}}$$

d)  $18 \frac{17}{18} = \boxed{\frac{341}{18}}$

$$\begin{array}{r} 18 \\ \times 18 \\ \hline 324 \end{array}$$

# Adding and Subtracting Fractions

To do this, find a common denominator, make equivalent fractions then add the numerators.

### Ex. 3

$$a) \quad \frac{2}{5} + \frac{1}{4} \times 5$$

*x4*

$$= \frac{8}{20} + \frac{5}{20}$$

$$= \boxed{\frac{13}{20}}$$

$$b) \quad \underset{\times 5}{\frac{3}{4}} + \frac{4}{5}^{\times 4} + \frac{5}{6}$$

$$= \frac{15}{20} + \frac{16}{20} + \frac{5}{6}$$

$$= \underset{\times 3}{\frac{31}{20}} + \frac{5}{6}^{\times 10}$$

$$= \frac{93}{60} + \frac{50}{60}$$

$$= \boxed{\frac{143}{60}}$$

# Multiplying Fractions

Ex. 3:

a)  $\frac{2}{3} \times \frac{3}{4} = \frac{6}{12} = \boxed{\frac{1}{2}}$

$\frac{\cancel{2}}{\cancel{3}} \times \frac{\cancel{3}}{\cancel{4}} = \boxed{\frac{1}{2}}$

$$b) \frac{-2}{5} \cdot \frac{-6}{5} \cdot \frac{-3}{8}$$

$$= \frac{-36 \div 2}{200 \div 2} = \frac{-18}{100} = \sqrt{\frac{-9}{50}}$$



# Dividing Fractions

To do this, invert the second term and multiply.

$$c) \frac{2}{5} \div \frac{3}{4}$$

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

$$= \boxed{\frac{8}{15}}$$

$$d) \frac{-3}{8} \times \frac{2}{7} \div \frac{4}{7}$$

$$= \frac{-3}{8} \times \frac{\cancel{2}}{\cancel{7}} \times \frac{\cancel{7}}{\cancel{4}} = \boxed{\frac{-3}{16}}$$

$$= \frac{-42}{224} = \frac{-21}{112} = \boxed{\frac{-3}{16}}$$