

## Warm-Up

1)

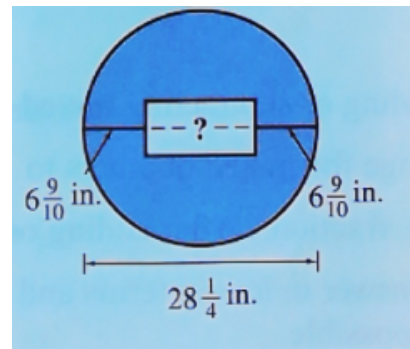
On a recent vacation to Canada, Erin Gavin drove for  $7\frac{3}{4}$  hours on the first day,  $5\frac{1}{4}$  hours on the second day,  $6\frac{1}{2}$  hours on the third day, and 9 hours on the fourth day. How many hours did she drive altogether?

$$7\frac{3}{4} + 5\frac{1}{4} + 6\frac{1}{2} + 9$$

$$\underbrace{9+7}_{16} + \underbrace{5+6}_{11} + \frac{3}{4} + \frac{1}{4} + \frac{1}{2}$$

$$\underbrace{27 + \frac{6}{4} = \frac{12}{4} = \frac{1}{2}}_{28\frac{1}{2} \text{ hr}}$$

2) Find the missing value



$$28\frac{1}{4} - \left(6\frac{9}{10} + 6\frac{9}{10}\right)$$

$$12\frac{18}{10} = \frac{18}{5}$$

$$28\frac{1}{4} - 13\frac{4}{5}$$

$$28 - 13 + \frac{1 \cdot 5}{4 \cdot 5} = \frac{4}{5}$$

$$27 \cancel{28} - 13 \frac{20}{20} = \frac{5 \cdot 4}{20} - \frac{16}{20}$$

$$\frac{25}{20} - \frac{16}{20}$$

$$\boxed{14\frac{9}{20}}$$

$$22) 22 - 4\frac{5}{8}$$

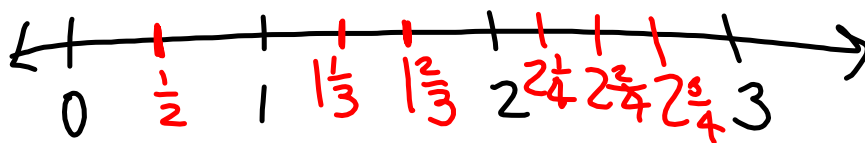
$$\begin{array}{r} \cancel{22} \frac{\cancel{0}}{8} \\ - 4\frac{5}{8} \\ \hline 17\frac{3}{8} \end{array}$$

## 3.5 Order Relations and PEMDAS

Place the following on a # line

$$\frac{9}{4}, \frac{5}{3}, \frac{11}{4}, \frac{4}{3}, \frac{1}{2}, \frac{10}{4}$$

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



Comparing two numbers on the # line

further left  $\rightarrow$  smaller

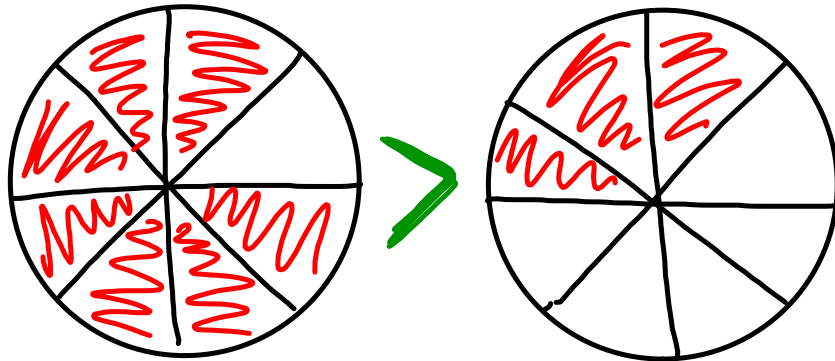
further right  $\rightarrow$  larger

Ex 1 Use  $>$  or  $<$  to rewrite

a)  $\frac{1}{2}$  is less than  $\frac{4}{3}$  =  $\frac{1}{2} < \frac{4}{3}$

b)  $\frac{9}{4}$  is greater than 1  $\frac{9}{4} > 1$

c)  $\frac{5}{3}$  is less than  $\frac{11}{4}$   $\frac{5}{3} < \frac{11}{4}$



Represent  $\frac{7}{8}$  and  $\frac{3}{8}$

To Compare

- 1) Write with same denominators
- 2) Directly compare the numerators

Ex 2 Compare

a)  $\frac{7}{8}, \frac{9}{10}$

$$\frac{7 \cdot 5}{8 \cdot 5} \quad \frac{9 \cdot 4}{10 \cdot 4}$$

$$\frac{35}{40} < \frac{36}{40}$$

LCM: 40

b)  $\frac{8}{5}, \frac{23}{15}$

$$\frac{8 \cdot 3}{5 \cdot 3} \quad \frac{23}{15}$$

$$\frac{24}{15} > \frac{23}{15}$$

LCM: 15

## Recall Exponents

$$3^2 = 3 \cdot 3$$

$$5^3 = 5 \cdot 5 \cdot 5$$

Ex 3 Exponents w/ Fractions

$$a) \left(\frac{1}{2}\right)^3$$

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

$$\frac{1}{8}$$

$$b) \left(\frac{5}{8}\right)^2$$

$$\frac{5}{8} \cdot \frac{5}{8}$$

$$\frac{25}{64}$$

c) PEMDASEx 4

$$a) \frac{1}{3} + \frac{1}{2} \cdot \left(\frac{4}{5}\right)$$

$$\frac{1 \cdot 5}{3 \cdot 5} + \frac{2 \cdot 3}{5 \cdot 3}$$

$$\frac{5}{15} + \frac{6}{15}$$

$$\frac{11}{15}$$

b) 

$$c) \left(\frac{2}{3}\right)^2 - \frac{4}{5} \cdot \left(\frac{1}{2}\right)$$

$$\left(\frac{2}{3}\right)\left(\frac{2}{3}\right) - \frac{2 \cdot 4}{5 \cdot 2}$$

$$\frac{4 \cdot 5}{9 \cdot 5} - \frac{2 \cdot 9}{5 \cdot 9}$$

$$\frac{20}{45} - \frac{18}{45}$$

$$\frac{2}{45}$$