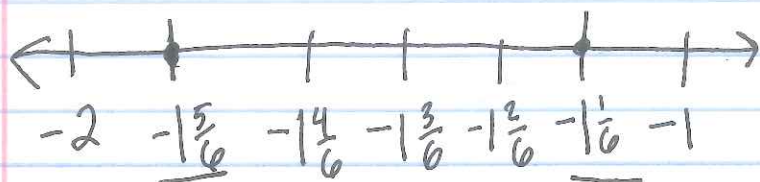# Lesson 4.2 Compare and Order Rational Numbers

Objective: To compare and order rational numbers.

Ex.1 Fill in the $\bigcirc$ with $<, >, =$ to make $-1\frac{5}{6}\bigcirc -1\frac{1}{6}$ a true statement.

$-2 \quad -1\frac{5}{6} \quad -1\frac{4}{6} \quad -1\frac{3}{6} \quad -1\frac{2}{6} \quad -1\frac{1}{6} \quad -1$

The number line shows $-1\frac{5}{6} < -1\frac{1}{6}$.

Ex.2 Fill in the $\bigcirc$ with $<, >,$ or $=$ to make $\frac{7}{12}\bigcirc\frac{8}{18}$ a true statement.

LCD: 12: 12, 24, ⑯, 48, 60
18: 18, ㊱, 54, 72, 90

$\overset{\times 3}{\frac{7}{12}} \cdot \frac{21}{36} \underset{\times 3}{}$

$\overset{\times 2}{\frac{8}{18}} \cdot \frac{16}{36} \underset{\times 2}{}$

* percent to decimal *

$\frac{21}{36} > \frac{16}{36}$ so $\boxed{\frac{7}{12} > \frac{8}{18}}$

Ex.3 Order the set $(3.44, \pi, 3.14, 3.\overline{4})$ in order from least to greatest.

Decimal to percent

$3.440\checkmark$
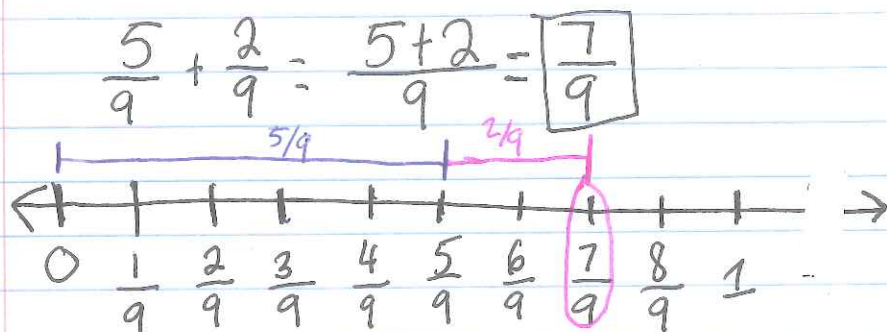
$3.140\checkmark$

$\pi = 3.1415926\checkmark$

$3.\overline{4}44\checkmark$

$3.140, 3.141, 3.440, 3.444 ; \boxed{3.14, \pi, 3.44, 3.\overline{4}}$

Lesson 4.3 Add and Subtract ==LIKE== Fractions

<u>Objective:</u> To add and subtract rational numbers, expressed as fractions.

<u>Ex.1</u> Add. Write in simplest form.

$$\frac{5}{9} + \frac{2}{9} = \frac{5+2}{9} = \boxed{\frac{7}{9}}$$

<u>Ex.2.</u> Find $-\frac{5}{8} - \frac{3}{8}$.

$$-\frac{5}{8} - \frac{3}{8} \qquad * \text{keep, Change, change} *$$

$$\downarrow \quad \downarrow \quad \downarrow$$

$$-\frac{5}{8} + \left(-\frac{3}{8}\right) = \frac{-5+(-3)}{8} = \boxed{\frac{-8}{8} = -1}$$

<u>Ex.3.</u> About $\frac{6}{100}$ of the U.S. population lives in Florida. Another $\frac{4}{100}$ lives in Ohio. About ==what fraction more of the U.S. population lives in Florida than Ohio.==

$$\frac{6}{100} - \frac{4}{100} = \frac{6}{100} + \left(\frac{-4}{100}\right) = \frac{6+(-4)}{100} = \frac{2}{100} = \frac{1}{50}$$

About $\frac{1}{50}$ more of the U.S. population lives in Florida than in Ohio.