5.3 Comparing Mixed Numbers and Improper Fractions

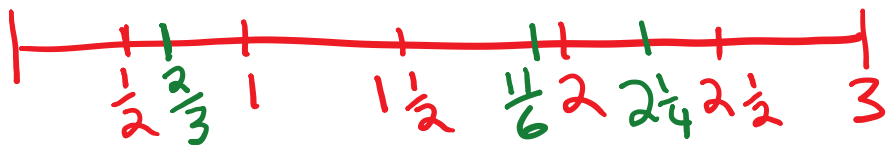## Strategies to Order Mixed Numbers and Improper Fractions:

1. Use benchmarks on a number line and estimate
2. Draw a number line for each fraction or mixed number on a number line with equal spacing
3. Write each number as an equivalent fraction with the same denominator, then place on a number line.

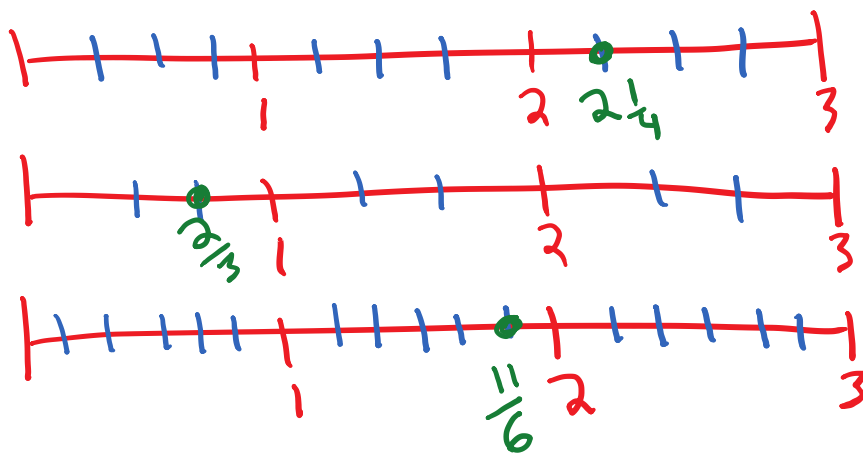Example: Order the following numbers $2\frac{1}{4}$, $\frac{2}{3}$ and $\frac{11}{6}$

1. Use benchmarks on a number line and estimate

- $\frac{2}{3}$ is between $\frac{1}{2}$ and 1, but closer to $\frac{1}{2}$
- $\frac{11}{6}$ is the same as $1\frac{5}{6}$. $1\frac{5}{6}$ is close to 2, but less than 2
- $2\frac{1}{4}$ is halfway between 2 and $2\frac{1}{2}$.

2. Draw a number line for each fraction or mixed number on a number line with equal spacing

The denominators are 4, 3 and 6. You can divide each numberline in a different way.

$2\frac{1}{4}$ divide into 4's

$\frac{2}{3}$ divide into 3's

$\frac{11}{6}$ divide into 6ths

3. Write each number as an equivalent fraction with the same denominator, then place on a number line.

i. convert any mixed fractions to improper fractions

$$2\frac{1}{4} = \frac{4}{4} + \frac{4}{4} + \frac{1}{4} = \frac{9}{4}$$

ii. write each fraction with the same denominator

✳ find LCF

$$\frac{9}{4} \stackrel{\times 3}{=} \frac{27}{12} \quad \times 3$$

$$\frac{2}{3} \stackrel{\times 4}{=} \frac{8}{12} \quad \times 4$$

$$\frac{11}{6} \stackrel{\times 2}{=} \frac{22}{12} \quad \times 2$$

$\frac{8}{12}$ 1 $\frac{22}{12}$ 2 $\frac{27}{12}$ 3

$= \frac{2}{3}$ $= \frac{11}{6}$ $= 2\frac{1}{4}$