Comparing and Ordering Mixed Numbers and Fractions

There are three different ways to compare and order mixed numbers and improper fractions.

We can use:

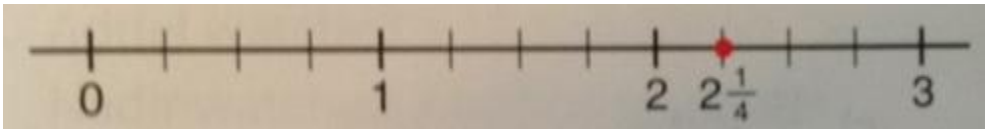
- **number lines**
- **diagrams**
- **equivalent fractions with the same denominator**

Using a Number Line to Compare and Order Mixed Numbers and Improper Fractions

To order $2\frac{1}{4}$, $\frac{11}{6}$, and $\frac{8}{3}$ from least to greatest we can use a number line.

To create a number line you use the denominator (number of pieces in the whole) as the number of lines between each whole number.

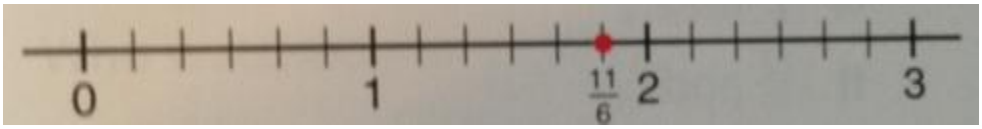
On a number line $2\frac{1}{4}$ looks like:



There are 4 spaces between each whole number because the denominator is 4.

There are 2 wholes and $\frac{1}{4}$ in this mixed number.

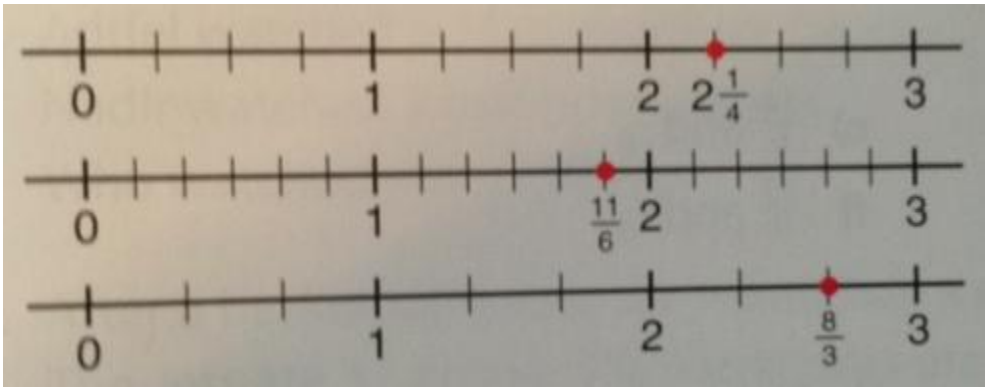
On a number line $\frac{11}{6}$ looks like:



It is on the 11^{th} line, when each whole has 6 pieces.

Draw $\frac{8}{3}$ on a number line.

Compare the three fractions.



We can say the order of the fractions from least to greatest is

Using a Diagram to Compare and Order Mixed Numbers and Improper Fractions

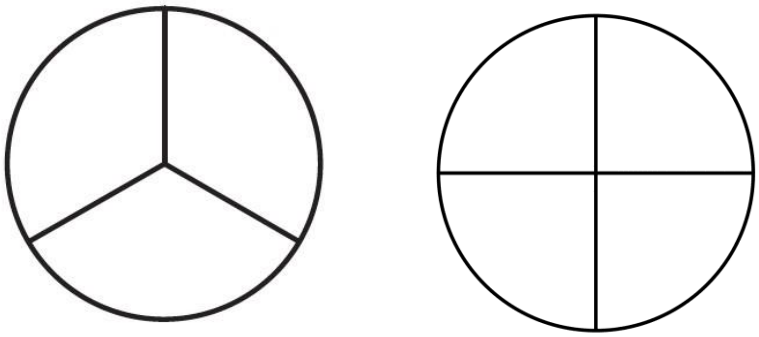
To compare $1\frac{2}{3}$ and $\frac{7}{4}$ we can use a diagram.

We can write $\frac{7}{4}$ as a mixed number, it is $1\frac{3}{4}$.

With $1\frac{2}{3}$ and $1\frac{3}{4}$ the whole number parts are equal.

We need to compare the fraction parts.

Colour in a diagram to represent $\frac{2}{3}$ and $\frac{3}{4}$



From the diagram we can see that $\frac{2}{3}$ is _____ than $\frac{3}{4}$.

This means that $1\frac{2}{3}$ is _____ $\frac{7}{4}$.

Using Equivalent Fractions With the Same Denominator to Compare and Order Mixed Numbers and Improper Fractions

Another way to compare $1\frac{2}{3}$ and $\frac{7}{4}$ is to use equivalent fractions with the same denominator.

We can write $1\frac{2}{3}$ as an improper fraction, it is $\frac{5}{3}$.

To compare $\frac{5}{3}$ and $\frac{7}{4}$ we need to represent both values with the same denominator.

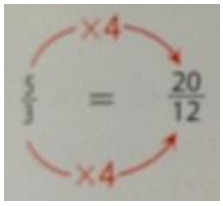
The first step is to list the multiples of each denominator.

Multiples of 3:

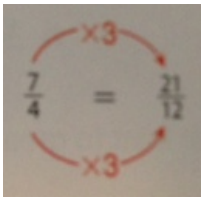
Multiples of 4:

We can see that ___ is a common multiple of 3 and 4.

Next, we find an equivalent fraction for $\frac{5}{3}$ with twelfths.



Then we find an equivalent fraction for $\frac{7}{4}$ with twelfths.



Last, we compare the fractions with the same denominator.

We can say that $\frac{20}{12}$ is _____ than $\frac{21}{12}$.