MIXED NUMBERS & IMPROPER FRACTIONS
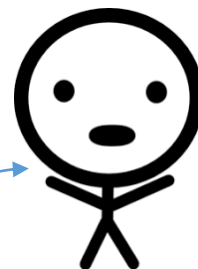
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Mixed numbers

A mixed number is a number consisting of a a whole number and a proper fraction. It is a short way of writing the sum (addition) of the whole part and the fraction.

$$1\frac{2}{3} = 1 + \frac{2}{3}$$

Improper fractions

If the numerator is greater than the denominator then the fraction is called as improper fraction. We may call these fractions as "top-heavy" fractions.

You may even call them as "Big headed" fractions if it is easy to remember.

$$1\frac{2}{3} = 1 + \frac{2}{3}$$

Converting mixed numbers into improper fractions

- *Multiply the whole part with the denominator*
- *Add the numerator*
- *Write the common denominator afterwards*

$$2\frac{4}{7} = \frac{2 \times 7 + 4}{7} = \frac{18}{7}$$

Why do we do this?

Well, this is a shortcut of the following process

$$2\frac{4}{7} = 2 + \frac{4}{7} = \frac{2}{1} + \frac{4}{7} = \frac{14}{7} + \frac{4}{7} = \frac{18}{7}$$

Converting improper fractions into mixed numbers

- *Divide the numerator by the denominator*
- *The quotient is written as the whole part*
- *The remainder is written as the new numerator*

$$\frac{14}{3} = 4\frac{2}{3}$$

Why do we do this?

We try to figure out how many times the value of the denominator goes into the numerator (find a multiple that is close to the value of the numerator) and write that part as the whole part.

$$\frac{14}{3} = \frac{12}{3} + \frac{2}{3} = 4 + \frac{2}{3} = 4\frac{2}{3}$$

The remainder forms the fractional part (which is always a proper fraction) …