

Maths Star

Mixed Fractions & Top Heavy Fractions

WHAT?! Mixed fractions are fractions with a whole number and a fraction, such as $1\frac{1}{2}$ and top heavy fractions are fractions where the number on the top is bigger than the number on the bottom.

WHY?! We can change between the two types, as sometimes we need to change a mixed fraction to a top heavy fraction in order to do fraction sums. Then, often we need to change a top heavy fraction back to a mixed fraction at the end of a sum.

HOW?! Example: Change $1\frac{1}{2}$ to a top heavy fraction

Here, we have a denominator of 2. The whole number 1 as a fraction over 2 is $\frac{2}{2}$, so we have $\frac{2}{2}$ and $\frac{1}{2}$. $\frac{2}{2} + \frac{1}{2} = \frac{3}{2}$

With bigger numbers, the simplest method is to multiply the whole number by the denominator and add it to the numerator, so:

$3\frac{1}{4} \Rightarrow 3 \times 4 + 1 = 13$, so the fraction becomes $\frac{13}{4}$

Example: Change $\frac{5}{2}$ to a mixed fraction

Here, we have a denominator of 2. A whole number will be $\frac{2}{2}$, so we need to work out how many times 2 will go into 5 to find what the whole number will be, then work out what is left, so:

$5 \div 2 = 2$, remainder 1, so we have 2 whole numbers with one left over.

Whatever is left over, we make into a fraction, so the remainder 1 becomes $\frac{1}{2}$. So, we have $2\frac{1}{2}$

Try it yourself:

Change the following into top heavy fractions:

1) $1\frac{3}{4}$ 2) $2\frac{1}{5}$ 3) $3\frac{1}{4}$ 4) $2\frac{3}{7}$ 5) $4\frac{3}{5}$

Change these into mixed fractions:

1) $\frac{12}{5}$ 2) $\frac{6}{5}$ 3) $\frac{9}{7}$ 4) $\frac{23}{11}$ 5) $\frac{16}{3}$

Handy ★ formulas:

Mixed \rightarrow Top Heavy =
$$\frac{\text{whole number} \times \text{denominator} + \text{numerator}}{\text{denominator}}$$

Top Heavy \rightarrow Mixed =
Numerator \div denominator = whole number
Remainder becomes the fraction bit!