SIMPLIFYING RATIOS

If each number in a ratio is multiplied or divided by the same amount, an equivalent ratio is formed.

Example: 1:3 and 2:6 and 10:30 are equivalent ratios

Ratios in **simplest form** use whole numbers that have no common factor.

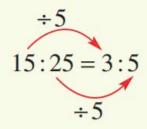Example 1: the simplest form of the ratio 10:30 is **1:3**

Example 2: the simplest form of the ratio 0.1:0.4 is **1:4**

Example 3: the simplest form of the ratio 0.25:1.25 is **1:5**

SIMPLIFYING RATIOS

- **Simplifying ratios**

  A ratio is simplified by dividing both numbers in the ratio by their highest common factor (HCF). For example, the ratio $15:25$ can be simplified to $3:5$.

$$\overset{\div 5}{\overbrace{15:25}} = 3:5 \atop \underset{\div 5}{\underbrace{}}$$

- It is convention to express ratios in their simplest form.
- Ratios in simplest form use whole numbers only.
- If a ratio is expressed with fractions, it is simplified by converting the quantities to whole numbers. This is generally done by multiplying by the lowest common denominator (LCD).
- Before ratios are simplified the quantities must be expressed in the same unit.