# Unit 2 Glossary Terms

## Equivalent ratios

Two ratios $a$: $b$ and $c$: $d$ are equivalent ratios if there is a number $s$ that you can multiply both $a$ and $b$ by to get $c$ and $d$ (respectively). In other words, $a \cdot s = c$ and $b \cdot s = d$.

8:6 is equivalent to 4:3 because you can multiply the numbers in the first ratio by $\frac{1}{2}$ to get the numbers in the second ratio.

## Proportional relationship

If there is a positive constant $k$ so that the quantities $x$ and $y$ are related by the equation $y = kx$, then we say that $y$ and $x$ are in a proportional relationship, and that $y$ is proportional to $x$. **The constant $k$ is called the constant of proportionality.**

If a train is moving at a constant speed of 300 kilometers per hour, then the distance it has traveled, $d$, in kilometers, is proportional to the time, $t$, in hours, since it started. An equation for the relationship is $d = 300t$ and the constant of proportionality is 300.

## origin

In the coordinate plane, the origin is the point (0,0).