## SCALE DRAWING



Scaling is a drawing method used to enlarge or reduce a drawing in size while keeping the proportions of the drawing the same.

Scales are generally expressed as ratios. The most common scales used in industrial drawing are:
$\Theta 1: 1,1: 2,1: 5$, and $1: 10$ for reducing, and possibly $\Theta 2: 1$ for enlarging.

Scaling is used to either:
$\Theta$ reduce the drawing in size so that it will fit onto the page, or
$\Theta$ enlarge the drawing in size so that all required details are clearly visible.
To scale a drawing using a calculator:
$\Theta$ divide the measurement by the scale if you want to reduce the drawing in size, or
$\Theta$ multiply the measurement by the scale if you want to increase it in size.

## Example 1: Scaling down

A 50 mm line is to be drawn at a scale of 1:5 (ie 5 times less than its original size). The measurement 50 mm is divided by 5 to give 10 mm . A 10 mm line is drawn.

A 50 mm line is to be drawn at a scale of $1: 2$. The measurement 50 mm is divided by 2 to give 25 mm . A 25 mm line is drawn.

## Example 2: Scaling up

A 50 mm line is to be drawn at a scale of 5:1 (ie 5 times more than its original size). The measurement 50 mm is multiplied by 5 to give 250 mm . A 250 mm line is drawn.

A 50 mm line is to be drawn at a scale of $2: 1$. The measurement 50 mm is multiplied by 2 to give 100 mm . A 100 mm line is drawn.

REMEMBER: Even though the drawing itself may be reduced in size or drawn at an enlarged size on the page, all dimensioning on the drawing should reflect the correct sizes of the item being drawn.


