

If the x-intercept of some line L is double as that of the line,  $3x + 4y = 24$  and the y-intercept of L is half as that of the same line, then the slope of L is

$$3x + 4y = 2y$$

$$\frac{3x}{2y} + \frac{4y}{2y} = 1$$

$$\frac{x}{8} + \frac{y}{6} = 1$$

If x intercept is doubled =  $(2a, 0)$

$$(2 \times 8, 0) = (16, 0)$$

$$(x_1, y_1) = (16, 0)$$

If y intercept is halved =  $\left(0, \frac{b}{2}\right)$

$$= \left(0, \frac{6}{2}\right) = (0, 3)$$

$$(x_2, y_2) = (0, 3)$$

Intercept form,

$$(y - y_1) = \frac{y_2 - y_1}{x_2 - x_1} (x - x_1)$$

$$(y - 0) = \left(\frac{3 - 0}{0 - 16}\right) (x - 16)$$

$$y = \frac{-3}{16} (x - 16)$$

$$\frac{-3}{16}x + 3$$

So, slope is  $\frac{-3}{16}$