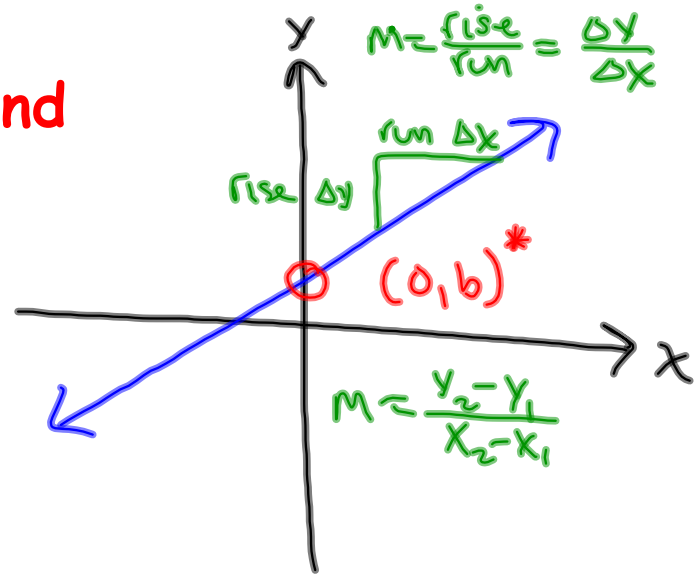
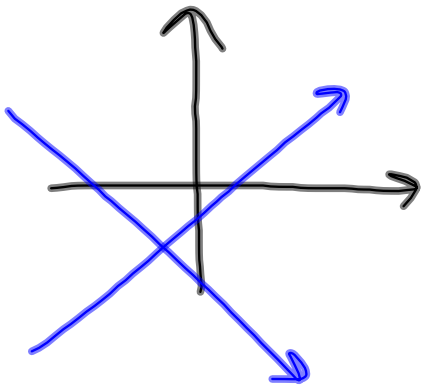
Straight Lines:
slope, y-intercept, and equations

$y = mx + b$

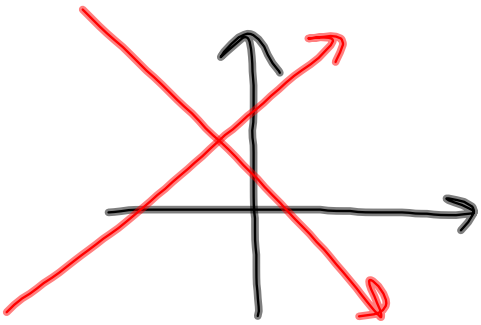
m = slope
b = y-intercept



* $(0, b)$ satisfies the equation of the line



negative y-intercept



positive y-intercept

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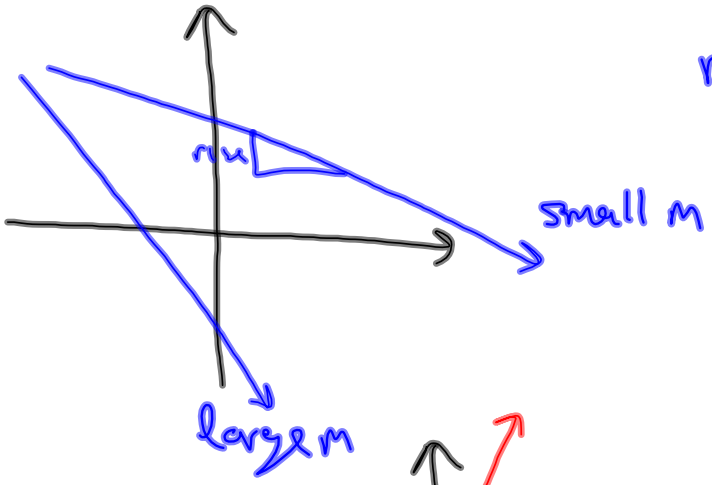
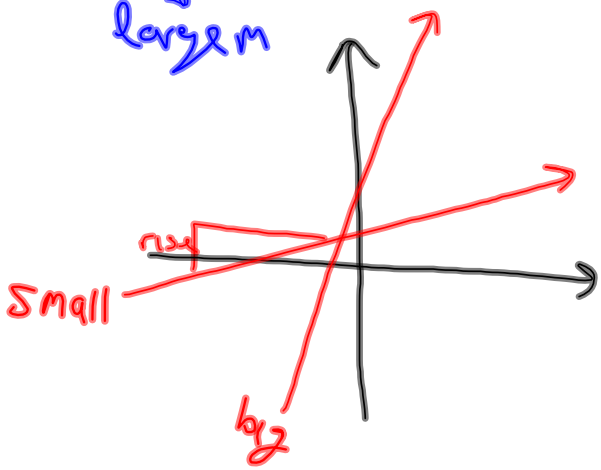
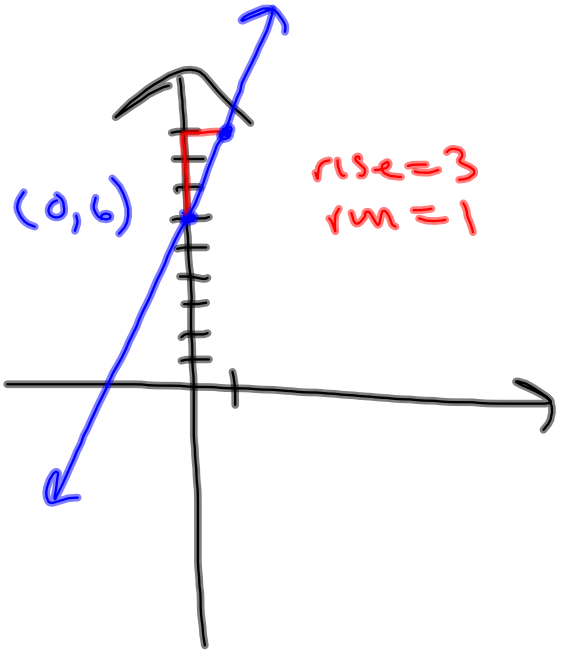


negative slope
(rise is (−))



positive slope
(rise is (+))

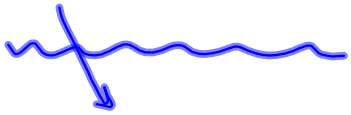
$y = 3x + 6$



$6 = 3(0) + 6$

$6 = 6$ ✓

$2x+4y=12$ slope? y-int?



$4y=-2x+12$

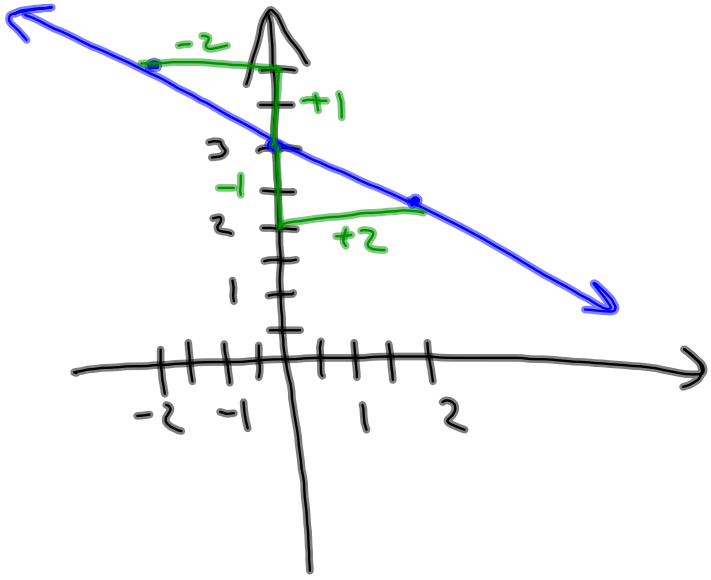
$y=-\frac{1}{2}x+3$

m b

$2x+4y=12$

$4y=-2x+12$

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



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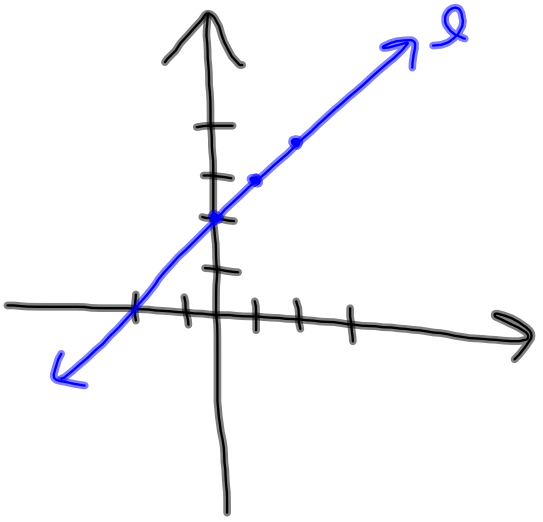

equation of l ?

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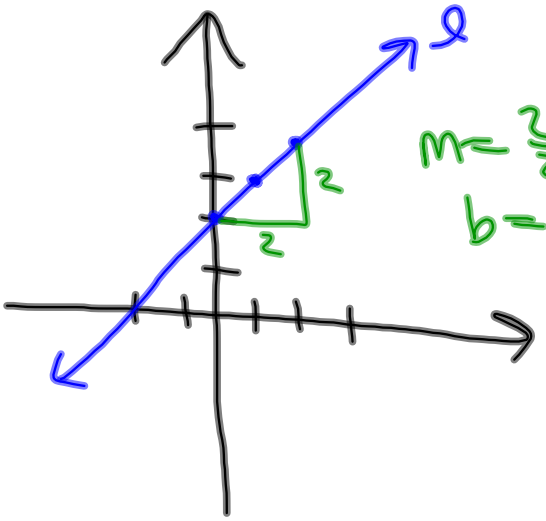

$m = \frac{2}{2} = 1$

$b = 2$

$y = mx + b$

$y = 1 \cdot x + 2$

$y = x + 2$

$y - 2 = x$

$-2 = x - y$

$x - y = -2$ standard form