

September 27, 2017

Lines

$\Delta y$   
 $x_2 - x_1 = \Delta x$

Slope =  $m = \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1} = \frac{\text{rise}}{\text{run}}$

positive slope  
negative slope  
slope is zero

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Equations of Lines

① S.I.:  $Ax + By = C$   
where  $A, B, \& C$   
are real numbers  
and are not fractions.  
 $4x + 3y = 9$

②  $y = mx + b$  (Slope-Intercept)  
Slope  $m$  y-intercept  $(0, b)$   
 $y = 2x - 5$   
 $m = \frac{2}{1} = 2$   
y-int.:  $(0, -5)$

③  $y - y_1 = m(x - x_1)$  (Point-Slope)  
Slope  $m$  Point  $(x_1, y_1)$

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#1)  $y = -2x - 2$   
 $m$  y-int.:  $(0, -2)$

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

$x$  (Domain)  
 $y$  (Range)  
Independent Variable

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