

$$\text{slope} = m = \frac{y_2 - y_1}{x_2 - x_1}$$

parallel lines - slopes are equal  
perpendicular lines - product of slopes is -1

$$\text{midpoint} = \left( \frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$

$$\text{distance} : d = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$$

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### Equations of lines :

Standard form:  $Ax + By = C$

Slope-intercept form:  $y = mx + b$   
 $m$  is the slope  
 $(0, b)$  is the  $y$ -intercept

Point-slope form:  $y - y_1 = m(x - x_1)$

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## Trigonometry Ratios :

Soh-Cah-Toa

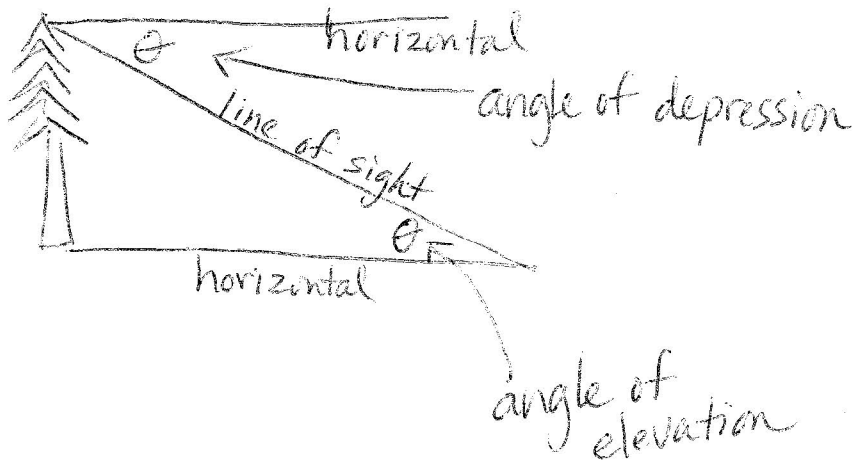


$$\sin \theta = \frac{\text{leg opposite}}{\text{hypotenuse}}$$

$$\cos \theta = \frac{\text{leg adjacent}}{\text{hypotenuse}}$$

$$\tan \theta = \frac{\text{leg opposite}}{\text{leg adjacent}}$$

(102)



(103)