

## Systems of Equns

$$\begin{aligned} 3x + 5y &= 18 \\ -2x - 9y &= -7 \end{aligned}$$

(1) Solving for x

$$\begin{aligned} 3x + 5y &= 18 \\ -5y - 5y & \end{aligned}$$

$$\frac{3x}{3} = \frac{18 - 5y}{3}$$

$$x = \frac{18 - 5y}{3} = 6 - \frac{5}{3}y$$

$$\begin{aligned} 3x + 5\left(\frac{-15}{17}\right) &= 18 \\ 3x + \frac{-75}{17} &= 18 \\ +\frac{75}{17} + \frac{75}{17} & \end{aligned}$$

$$-2\left(6 - \frac{5}{3}y\right) - 9y = -7$$

$$-12 + \frac{10}{3}y - 9y = -7$$

$$-\frac{12}{+12} - \frac{17}{3}y = \frac{-7}{+12}$$

$$-\frac{8}{17} - \frac{17}{3}y = 5 \cdot \frac{-3}{17}$$

$$y = \frac{-15}{17}$$

$$\frac{3x}{3} = \frac{381}{17} \cdot \frac{1}{3}$$

$$x = \frac{381}{51}$$

x	y
1	-9
3	-23
5	-37
7	-51

$$m = \text{slope} = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-23 - (-9)}{3 - 1} = \frac{-14}{2}$$

$$m = -7$$

$$y = mx + b$$

$$y = -7x + b$$

$$-9 = -7(1) + b$$

$$-9 = -7 + b$$

$$+7 \quad +7$$

$$-2 = b$$

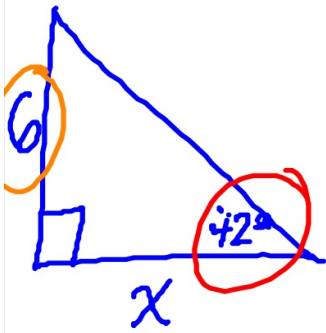
$$y = -7x - 2$$

x	y	k	x <sup>2</sup>
2	16	x4	4
4	64	x4	16
6	144	x4	36
8	256	x4	64

$$y = 4x^2$$

$$P = IV = I(IR) = I \cdot I \cdot R$$

$$V = IR = I^2 R$$



$$\tan \theta = \frac{\text{opp}}{\text{adj}}$$

$$\tan 42^\circ = \frac{6}{x}$$

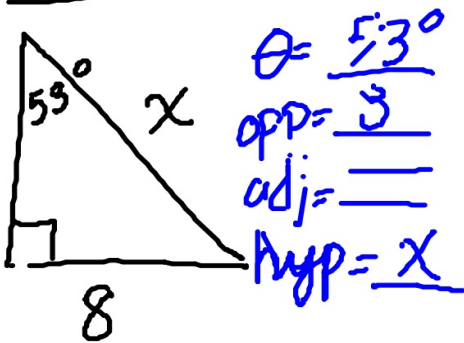
$$x = \frac{6}{\tan 42^\circ} \approx 6.8$$

$$2.54 \text{ cm} = 1 \text{ in}$$

$$5280 \text{ ft} = 1 \text{ mi}$$

<del>213 m</del>	<del>100 cm</del>	<del>21,300 cm</del>
	1 m	83.85.8 in
<del>21,300 cm</del>	1 in	ft
	<del>2.54 cm</del>	mi
		Km

### Right Triangle



$$\theta = 53^\circ$$

$$\text{opp} = 8$$

$$\text{adj} = \text{---}$$

$$\text{hyp} = x$$

$$\sin \theta = \frac{\text{opp}}{\text{hyp}}$$

$$\sin(53) = \frac{8}{x}$$

$$x = \frac{8}{\sin(53)} \approx 10.0$$

### Systems of Eqn.

$$2x + 5y = 21$$

$$-3x + y = 11$$

$$\begin{array}{r} +3x \\ \hline -3x + y = 11 \\ +3x \phantom{=} \\ \hline y = 11 + 3x \end{array}$$

$$y = 5$$

$$2x + 5(11 + 3x) = 21$$

$$2x + 55 + 15x = 21 \quad (x = -2)$$

$$\begin{array}{r} 17x + 55 = 21 \\ -55 \phantom{=} \\ \hline 17x = -34 \\ \hline x = -2 \end{array}$$