

# Algebra I

# Get Graph Paper and a protractor.

295: 1, 2, 15, 19, 20, 21, 25, 28, 39, 56, 100

① slope-intercept form; the slope: the y-intercept

② standard form:  $2x + 3y = -6$  ← Ex.

$$\textcircled{15} 5x + y = 2$$

$$\textcircled{19} \begin{cases} x + 8y < 0 \end{cases}$$

$$\textcircled{20} -10x + 2y = 10$$

$$18x - 2y = -1$$

$$\textcircled{21} 2x - y = -19$$

$$\textcircled{25} 5x - y = 17$$

$$\textcircled{28} x - 2y = 21$$

$$\textcircled{39} y = -2$$

$$\textcircled{40} x = -3$$

$$\textcircled{9} x = 4$$

$$\textcircled{42} y = 0$$

$$\textcircled{43} x = -3\frac{1}{2}$$

$$\textcircled{44} y = 2\frac{1}{2}$$

$$\textcircled{45} x = 9$$

$$\textcircled{46} x + y = 9$$

$$\textcircled{47} y = 10$$

$$\textcircled{48} x + y = 10$$

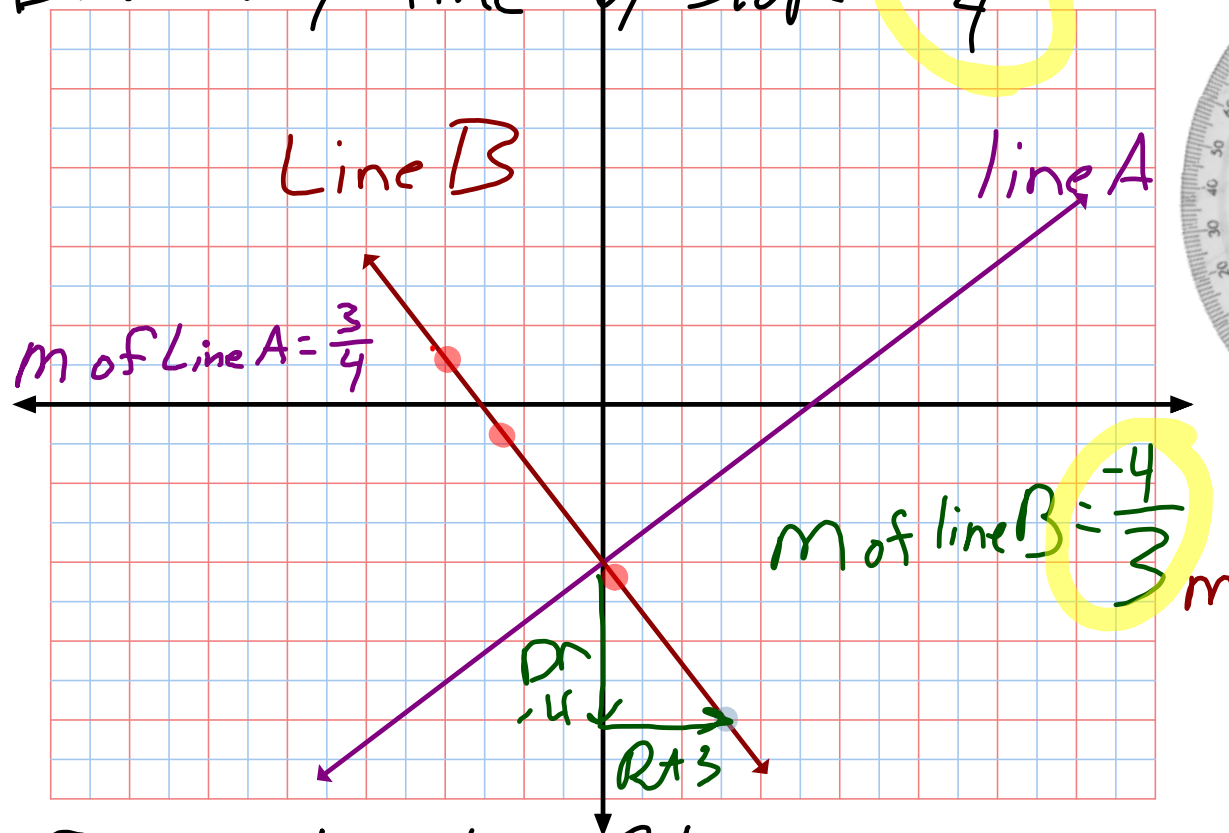
$$\textcircled{49} -x + y = 4$$

$$\textcircled{50} y = 1$$

$$\textcircled{51} x + y = 7$$

**Perpendicular lines**: 2 lines in the Same Plane that intersect at a Right or  $90^\circ$  angle.

Draw any line w/ Slope =  $\frac{3}{4}$



Perpendicular Slopes  
are opposite Recip.

$\perp \Rightarrow$  Perpendicular

Line A  $\perp$  Line B

Are  $y = 3x + 2$  &

$y = -3x - 1$   $\perp$ ?

To find out... multiply the Slopes to see if they equal  $(-1)$ .

$3 \cdot -3 = -9$  so... they are Not  $\perp$

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

$\frac{3}{2} \cdot -\frac{2}{3} = -1$  they are  $\perp$

Write in S-I form.  
the equation of the line  
passing through  $(2, 5)$  +  $(4, 4)$   
 $(x_1, y_1)$   $(x_2, y_2)$

\*Process

2 Pts  $\rightarrow$  Slope  $m = \text{slope} = \frac{\text{rise}}{\text{run}} = \frac{\text{change in } y}{\text{change in } x} = \frac{y_2 - y_1}{x_2 - x_1}$

Slope + 1 Pt  $\rightarrow$  P.S.F.  $\rightarrow$  S.I.F.

$$m = \frac{4 - 5}{4 - 2} = \underline{\underline{-\frac{1}{2}}}$$

$$y - y_1 = m(x - x_1)$$

$$y - 4 = -\frac{1}{2}(x - 4) \rightarrow \text{P.S.F.}$$

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

$$\underline{\underline{y = -\frac{1}{2}x + 6}}$$

$$y - y_1 = m(x - x_1)$$

$$y - 5 = -\frac{1}{2}(x - 2)$$

$$y - 5 = -\frac{1}{2}x + 1$$

$$y = -\frac{1}{2}x + 6$$

Is this  $\perp$   
to  $y = 2x + 1$ ?

$$-\frac{1}{2} \cdot 2 = \frac{-2}{2} = \underline{\underline{-1}}$$

they are  $\perp$

# O.T.L. ⑥ Wk.st. 5.3+5.4. Due w/ Test Tomorrow

- ① Put the Blue box on Page 306 into notes.
- ② Pg. 309-311: 1,2,11,14,16,18,19,20,23-31 (o), 40-45 (a).
- ③ Have yesterday's O.T.L. ready to be graded. (tomorrow)
- ④ Chapter 5 Test Friday!!!

O.T.L.

pg 317  
① 1, 7, 14, 20, 23, 26 } ~~Due w/ Test~~

Ready for Review Tomorrow at 7:00 AM