Determine whether the lines are parallel, intersect, or coincide.

1. $y = 3x + 7$, $y = -3x - 4$

They will intersect

2. $y = \frac{-1}{3}x + 5$, $6y = -2x + 12$

$\frac{6y}{6} = \frac{-2x}{6} + \frac{12}{6}$

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

They are // because slopes are =

3. $2y - 4x = 16$, $y - 10 = 2(x - 1)$

$+4x \quad +4x$

$2y = 4x + 16$

$y = 2x + 8$

$y - 10 = 2x - 2$

$y = 2x + 8$

They will coincide

Erica is trying to decide between two car rental plans. For how many miles will the plans cost the same?

	Plan A	Plan B
Initial Fee	$100.00	$85.00
Mileage Fee	$0.35/mi	$0.50

$y = .5x + 85 \quad y = .35x + 100$

$.5x + 85 = .35x + 100$

$.15x = 15$

$x = 100$

Determine whether the lines are perpendicular.

$3y = 2x + 15$ and $2y = -3x - 8$

$\frac{3y}{3} = \frac{2x + 15}{3}$

$y = \frac{2}{3}x + 5$

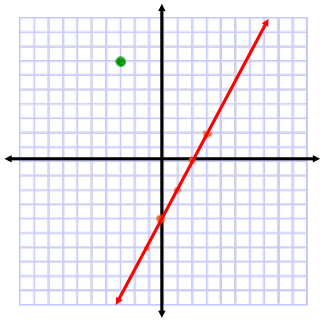
$\frac{2y}{2} = \frac{-3x - 8}{2}$

$y = -\frac{3}{2}x - 4$

They are $\perp$ because slopes are opposite reciprocals

$5y = 10x - 35$ and $6y = 3x + 18$

Write an equation in slope-intercept form for the line that is **parallel to y = 2x - 4** and passes **through the point (-3, 7)**



$m = 2 \quad (-3, 7)$

$y = mx + b$

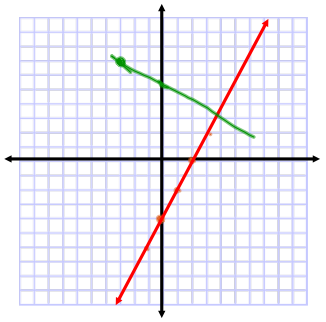
$7 = 2(-3) + b$

$7 = -6 + b$

$13 = b$

$y = 2x + 13$

Write an equation in slope-intercept form for the line that is **perpendicular to y = 2x - 4** and passes **through the point (-3, 7)**



$m = -\frac{1}{2} \quad (-3, 7)$

$7 = -\frac{1}{2}(-3) + b$

$7 = 1.5 + b$

$5.5 = b$

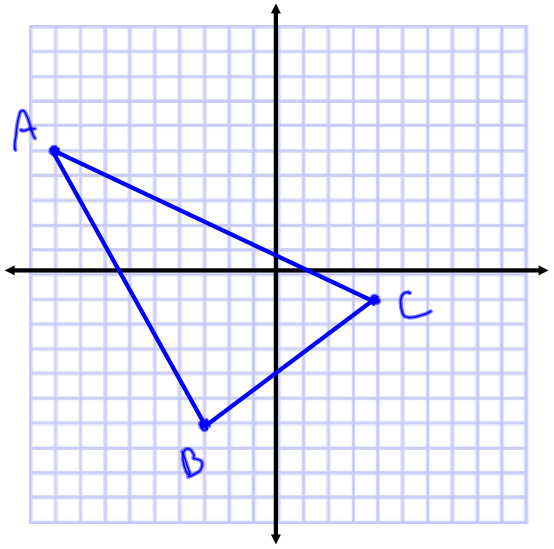
$y = -\frac{1}{2}x + 5.5$

Use slope to determine if the triangle is a right triangle. If so, which angle is the right angle?

A (-9, 5)

B (-3, -6)

C (4, -1)



slope of $\overline{AB} = \frac{-11}{6}$

slope of $\overline{BC} = \frac{5}{7}$

Not a rt $\triangle$ b/c

slopes are not

opposite reciprocals!