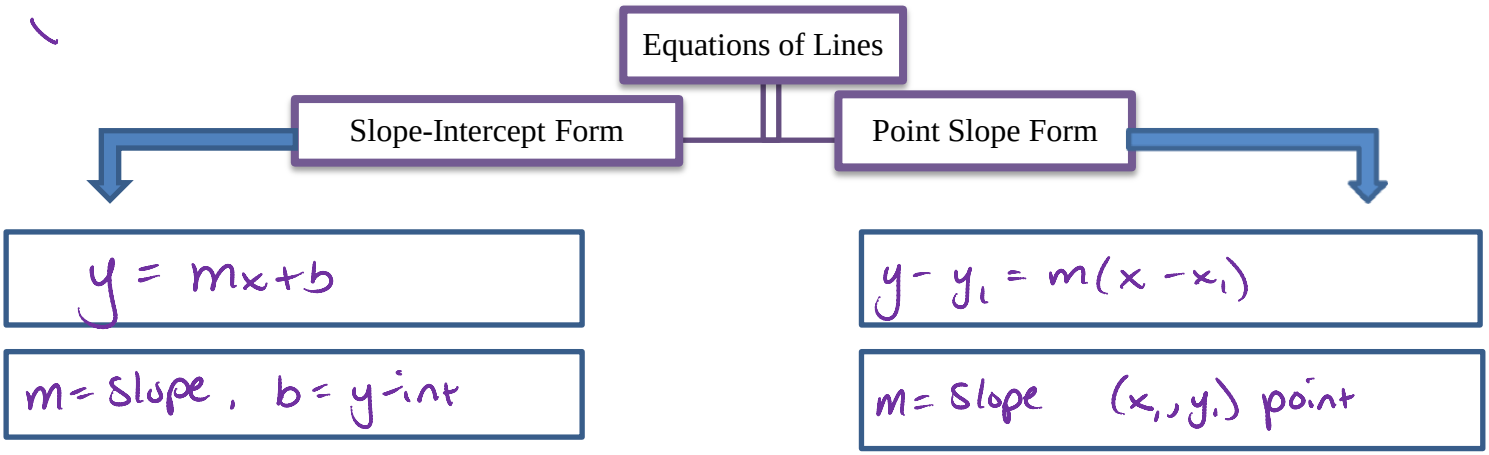
3.6 Day 1 Notes



Slope - Intercept Form and Point - Slope Form

Given Slope and a Point on the line, write the equation in Slope - Intercept Form and Point – Slope form.

1) m = -3 and (2, 4)

$y-4=-3(x-2)$

$y-4=-3x+6$
$+4 \quad +4$ or

$y=-3x+10$

$4=-3(2)+b$
$4=-6+b$
$+6 \quad +6$
$10=b$

$y=-3x+10$

2) m = 2 and (-3, -5)

$y+5=2(x+3)$

$y+5=2x+6$
$-5 \quad -5$

$y=2x+1$

Given two points on the line, write the equation in Slope - Intercept Form and Point – Slope form.

3) (8, -3) and (-4, -6)

$\frac{-3+6}{8+4}=\frac{3}{12}=\frac{1}{4}$

$y+3=\frac{1}{4}(x-8)$ or
$y+6=\frac{1}{4}(x+4)$

$y+6=\frac{1}{4}x+1$
$-6 \quad -6$

$y=\frac{1}{4}x-5$

4) (2, -6) and (-3, 4)

$\frac{-6-4}{2+3}=\frac{-10}{5}=-2$

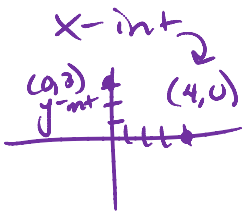
$y+6=-2(x-2)$ or
$y-4=-2(x+3)$

$y+6=-2x+4$
$-6 \quad -6$

$y=-2x-2$

Use your BRAIN..... how would you write the equation of this line?

E) Write the equation of a line with x-intercept 4 and y-intercept 3 in slope-intercept form.



(4,0)
(0,3)

$\frac{3-0}{0-4} = \frac{3}{-4} = m$

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

Are the two lines Parallel, Perpendicular, or Neither?

5) $-4y + 20 = x$
$3y = 12x - 6$

$\frac{3y}{3} = \frac{12x - 6}{3}$

$y = 4x - 2$

Perpendicular

$-4y + 20 = x$
$-20 \quad -20$

$\frac{-4y}{-4} = \frac{x - 20}{-4}$

$y = \frac{1}{-4}x + 5$

6) $-16 + 4y = 8x$

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

$y = 2x - 6$

$\frac{4y}{4} = \frac{8x + 16}{4}$

$y = 2x + 4$

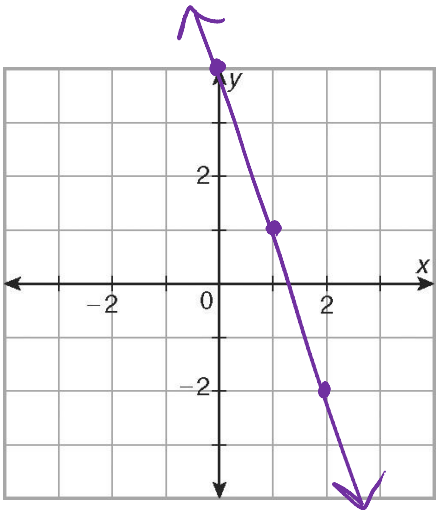
Parallel

Graph the lines.

7) $y = -3x + 4$

$m = -3$

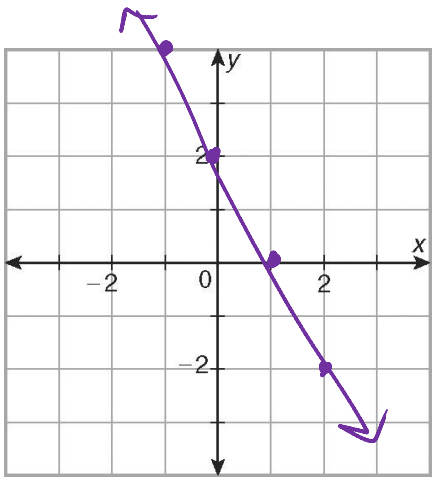
$b = 4$



8) $y - 4 = -2(x + 1)$

$m = -2$

$(-1, 4)$



9) $x = -2$