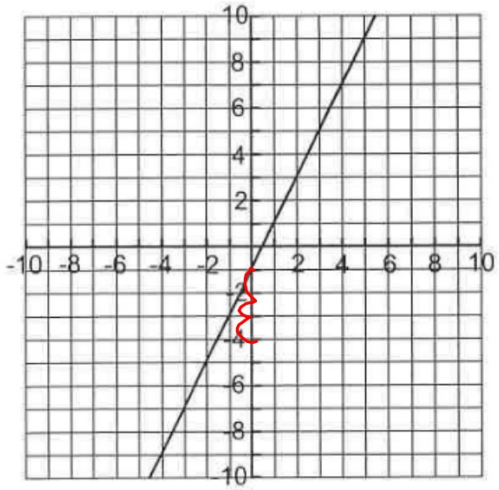
Tuesday 12/3

What is the equation of a line that is translated down 3 units? (Hint: Find the equation of the line on the graph)

$y = 2x - 1 - 3$

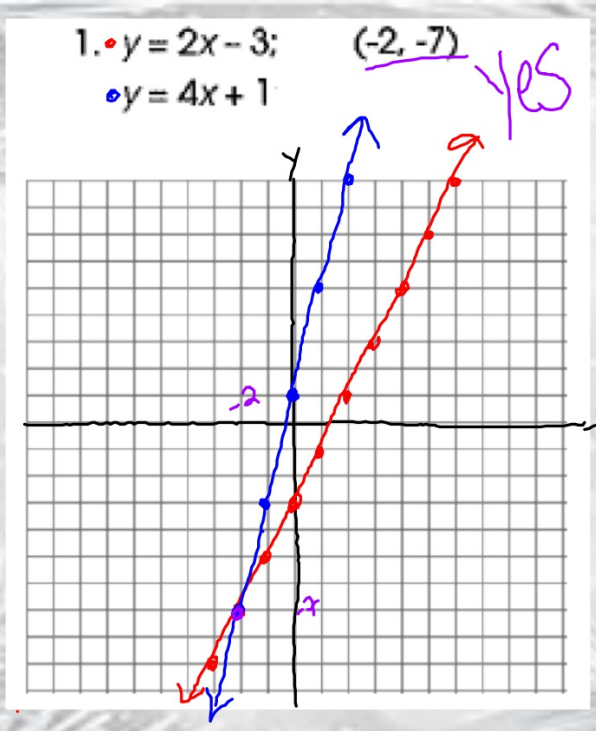
$y = 2x - 4$



1. $y = 2x - 3$;
$y = 4x + 1$

(-2, -7)

Yes



Solution
(-2, -7)

2. $3x - 5y = 12$; $(5, 1)$

$x + 2y = 3$

NO

$x + 2y = 3$

$-x \quad -x$

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

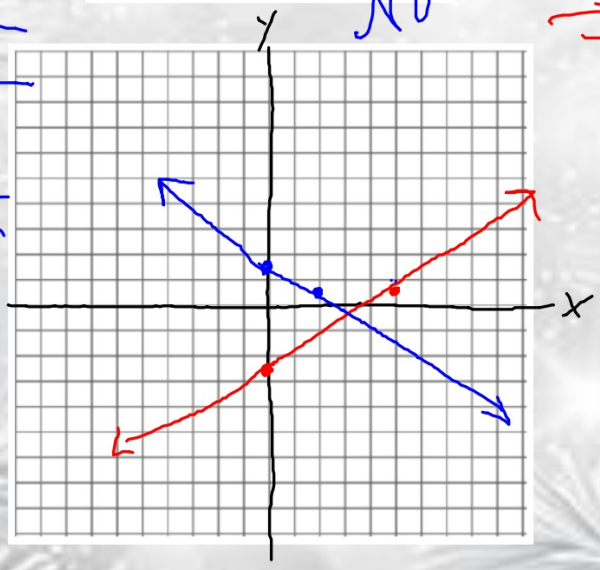
$y = -\frac{1}{2}x + \frac{3}{2}$

$3x - 5y = 12$

$-3x \quad -3x$

$\frac{-5y}{-5} = \frac{-3x+12}{-5}$

$y = \frac{3}{5}x - \frac{12}{5}$

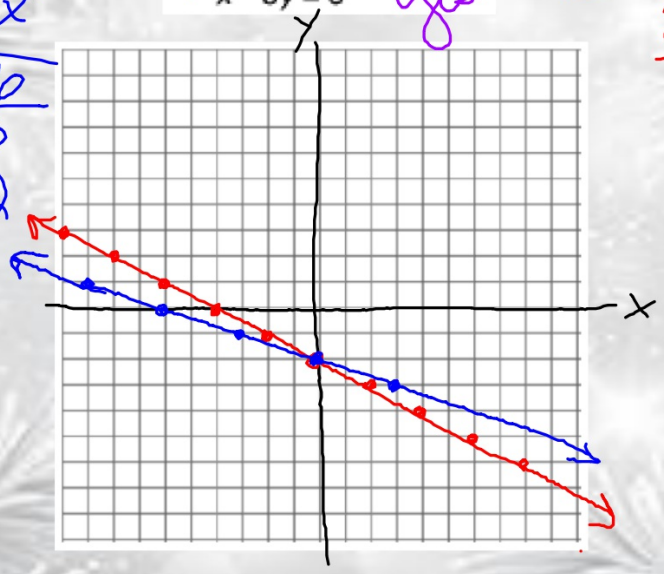


3. $x + 2y = -4$; $(0, -2)$
$-x - 3y = 6$

yes

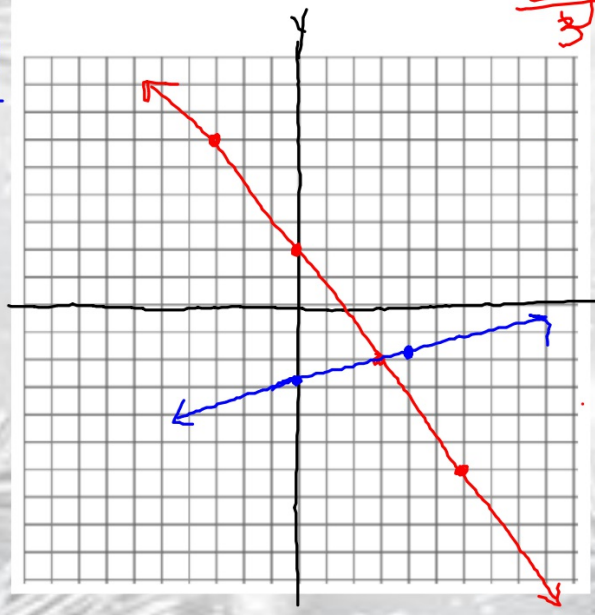
$-x - 3y = 6$
$+x \quad +x$
$-3y = x + 6$
$\frac{-3y}{-3} = \frac{x+6}{-3}$
$y = -\frac{1}{3}x - 2$

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



4. $4x + 3y = 6$

$x - 4y = 11$



$x - 4y = 11$

$-x \quad -x$

$-4y = -x + 11$

$\frac{-4y}{-4} = \frac{-x}{-4} + \frac{11}{-4}$

$y = \frac{1}{4}x - \frac{11}{4}$

x	
4	$\frac{1}{4}(4) - \frac{11}{4}$ → $1 - \frac{11}{4}$ → $\frac{4}{4} - \frac{11}{4}$ → $\frac{-7}{4}$

$4x + 3y = 6$

$-4x \quad -4x$

$\frac{3y}{3} = \frac{-4x + 6}{3}$

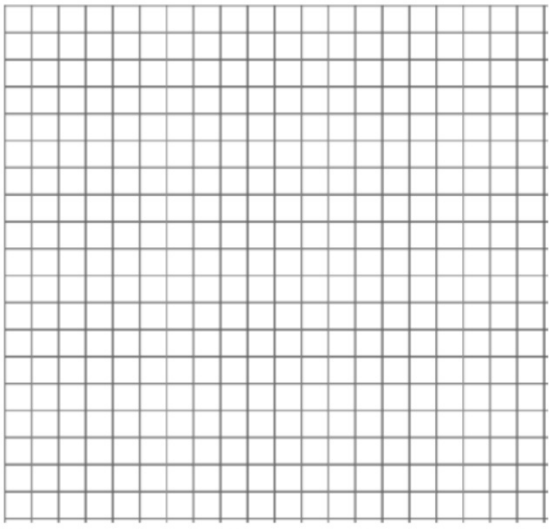
$y = -\frac{4}{3}x + 2$

Solution

Approx: (3, -2)

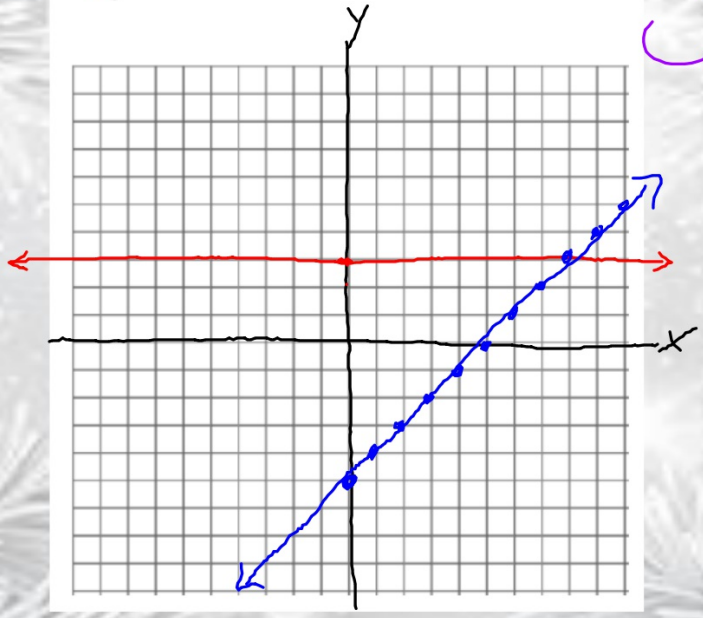
5. $x - y = 3$

$2x - y = 5$



8. $y = 3$ ← horizontal

$y = x - 5$



Solution
(8, 3)