5.3 (13.) $x^2\left(1 - \frac{1}{x} - \frac{6}{x^2}\right)$

$x^2 - \frac{x^2}{x} - \frac{6x^{x\,1}}{x^{x\,1}}$

$x^2 - x - 6$

$\frac{x^2}{1} = x^2$

(27) $(3.5 \times 10^4)(5 \times 10^{-6})$

$(3.5)(5)(10^4)(10^{-6})$

17.5×10^{-2}

$\hookrightarrow 1.75 \times 10^{-1}$

commutative

$ab = ba$

$a+b = b+a$

(57) $$\frac{(5 \times 10^{3})(4 \times 10^{-5})}{2 \times 10^{-2}}$$

$$\frac{5(4)}{2} \cdot \frac{10^{3}\,10^{-5}}{10^{-2}} = 10 \cdot 10^{3}10^{-5}10^{2}$$

$$10 \cdot 10^{3-5+2}$$

$$10 \times 10^{3-5+2}$$

$$10 \times 10^{0}$$

$$10 \times 10^{0}$$

$$1.0 \times 10^{1}$$

(45) Subtract $10x^2 + 23x - 50$ ← from $11x^2 - 10x + 13$ ←

$$(11x^2 - 10x + 13) - 1(10x^2 + 23x - 50)$$

$$11x^2 - 10x + 13 - 10x^2 - 23x + 50$$

$$x^2 - 33x + 63$$

$$11x^2 - 10x^2 - 10x - 23x + 13 + 50$$

$$\begin{array}{r} 11x^2 - 10x + 13 \\ -10x^2 - 23x + 50 \\ \hline x^2 - 33x + 63 \end{array}$$

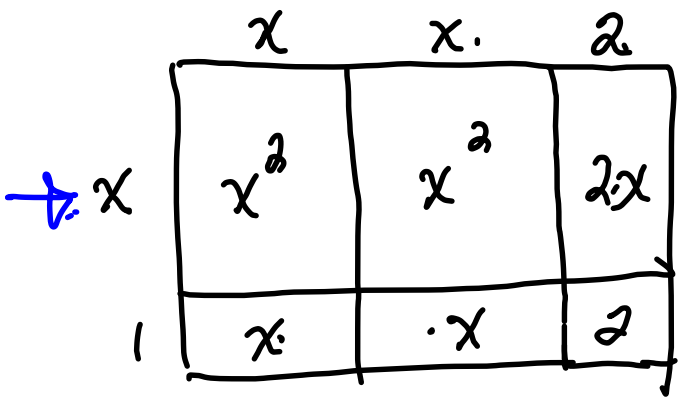
5.5 (41)

$(x+1)(2x+2)$

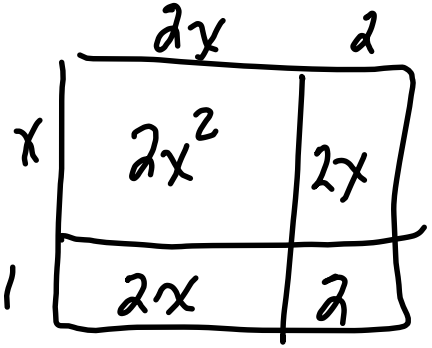
$2x^2 + 2x + 2x + 2$

$2x^2 + 4x + 2$

} tastes



$2x^2 + 4x + 2$



$2x^2 + 4x + 2$

Prob ① Find the y-intercept

$$5x - 4y = 20$$
$$-5x \qquad -5x$$

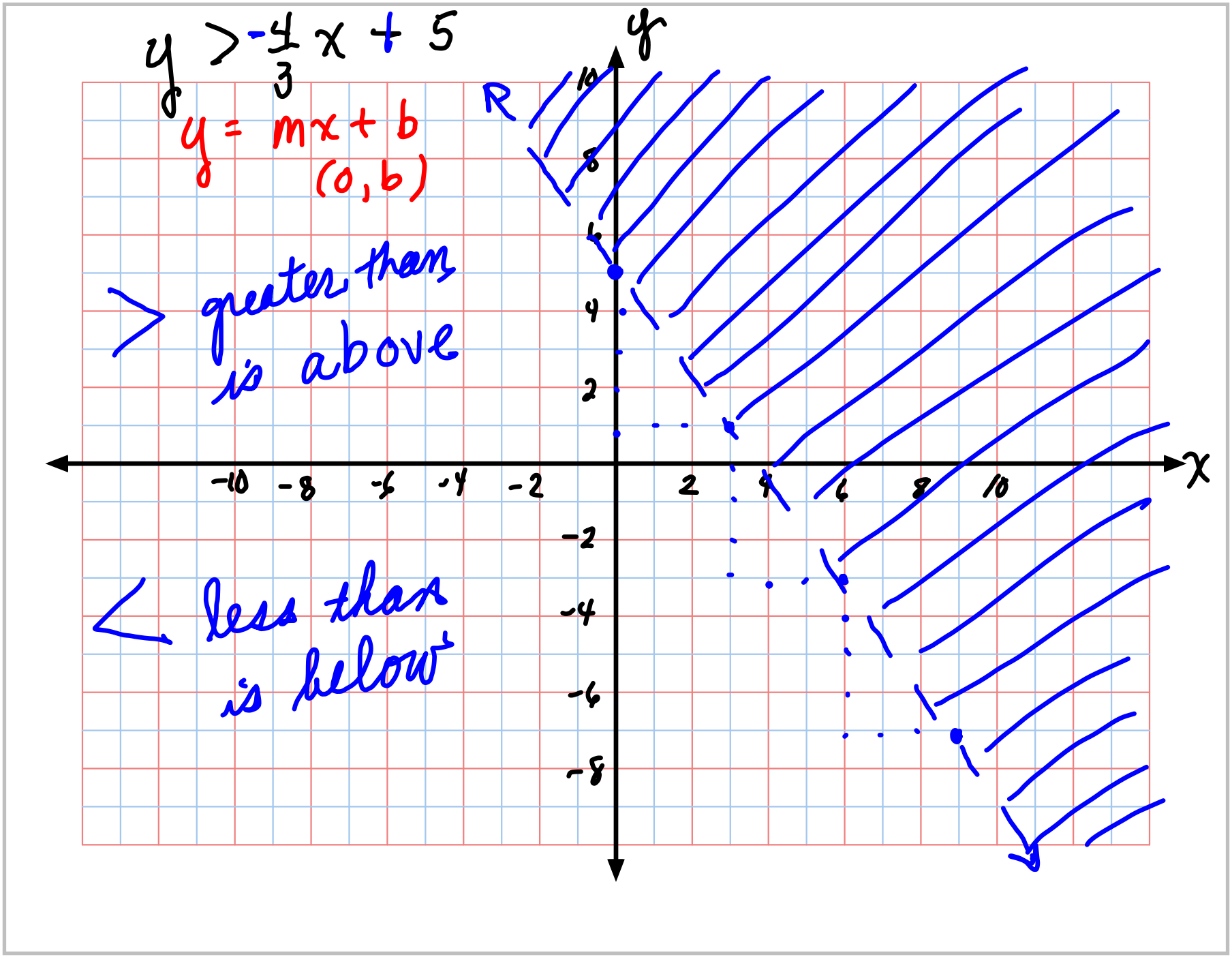
$$\frac{-4y}{-4} = \frac{-5x + 20}{-4}$$

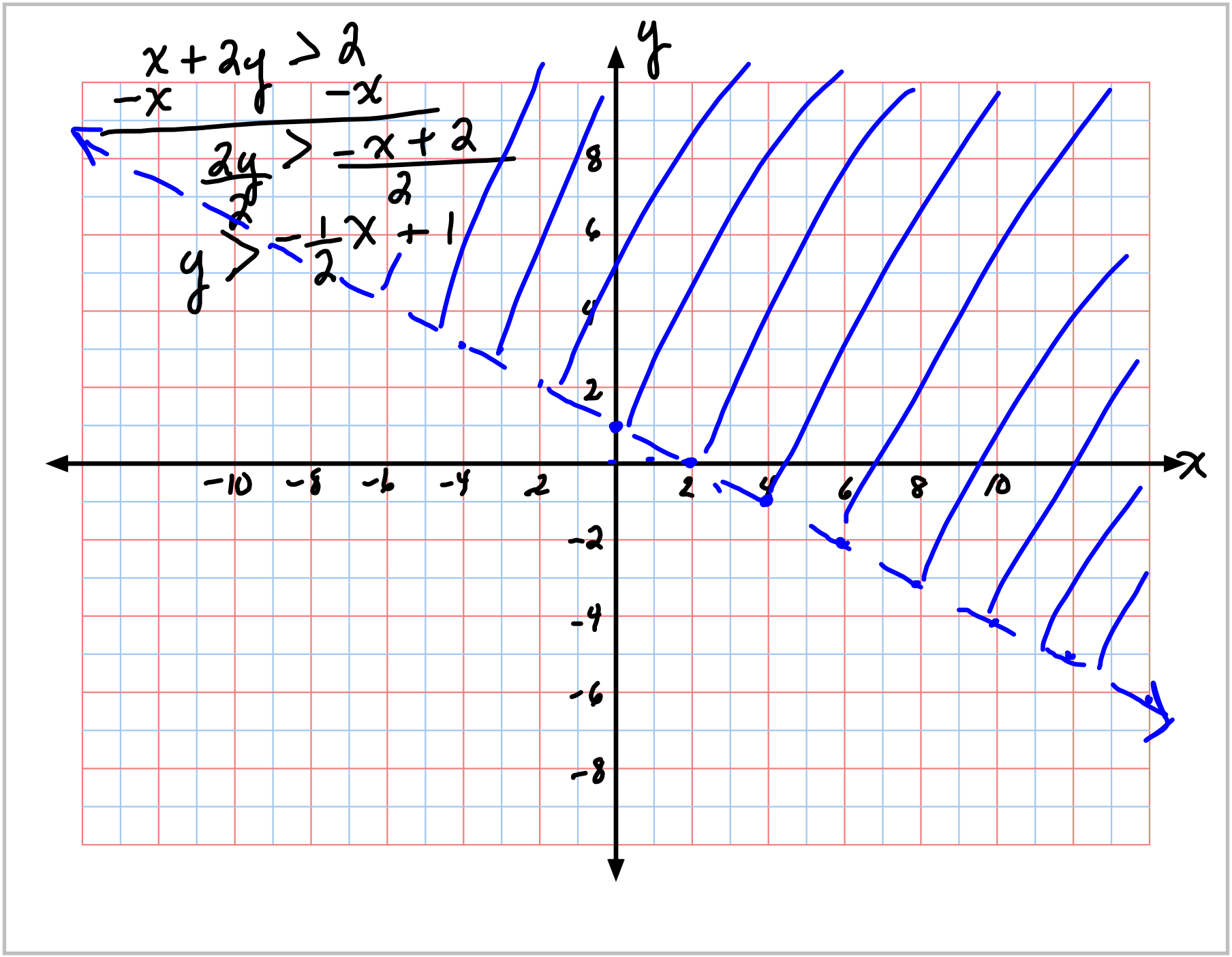
$$y = \frac{5}{4}x - 5 \qquad (0, -5)$$

2nd

$$\frac{-4y}{-4} = \frac{20}{-4} \qquad (0, -5)$$

$$y = -5$$


y > -1/3 x + 5
y = mx + b
(0, b)
R
> greater than
is above
< less than
is below
y
x
10
8
6
4
2
-2
-4
-6
-8
-10
-8
-6
-4
-2
2
4
6
8
10


x + 2y > 2
−x −x
2y > −x + 2
2y/2 > (−x + 2)/2
y > −1/2 x + 1
y
x
8
6
4
2
−2
−4
−6
−8
−10
−8
−6
−4
2
2
4
6
8
10

Pink (12)

$-4x + 2y = -10$

$y = 2x - 5$

$0 = 3$ false

$-4x + 2(2x - 5) = -10$

$-4x + 4x - 10 = -10$

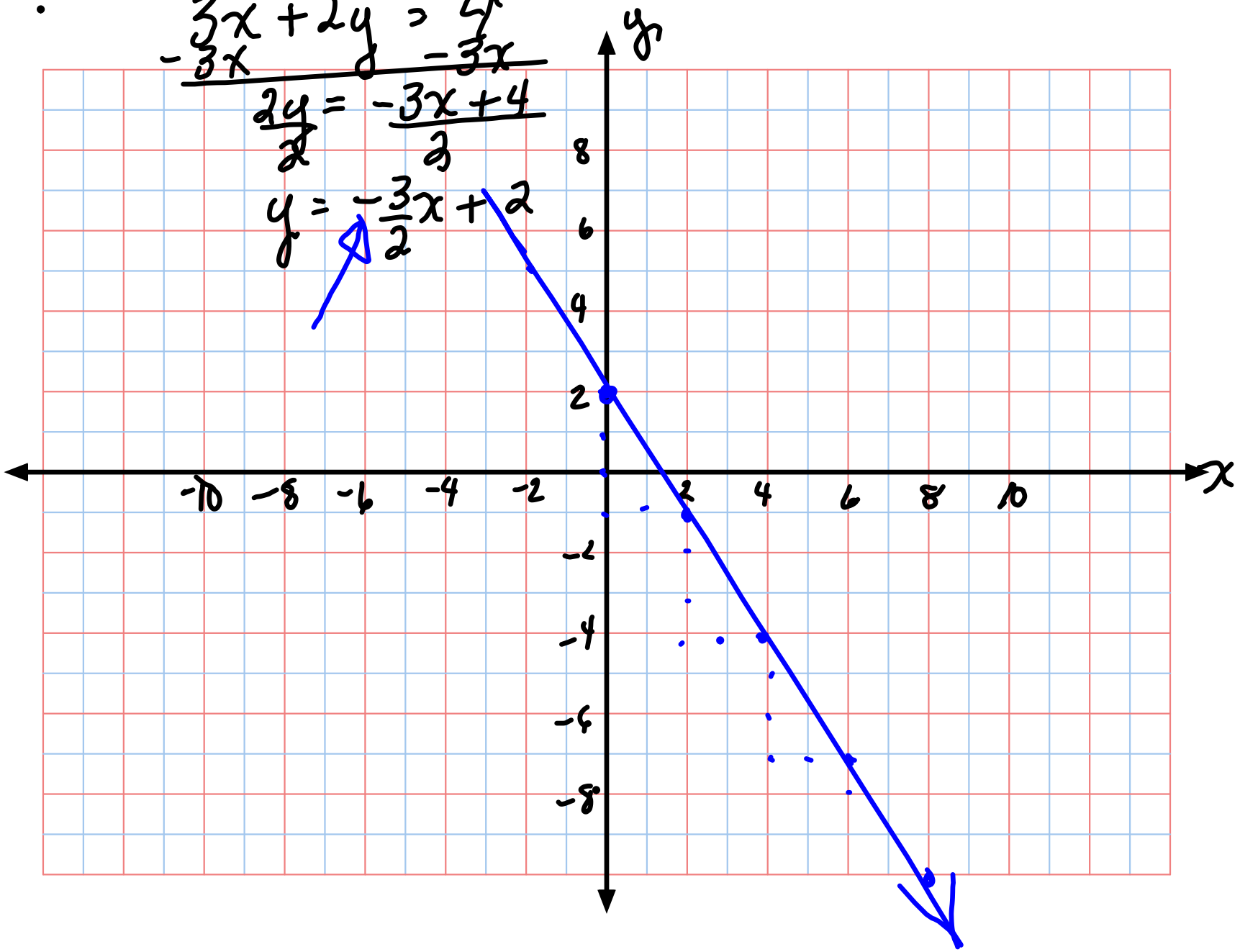
$-10 = -10$

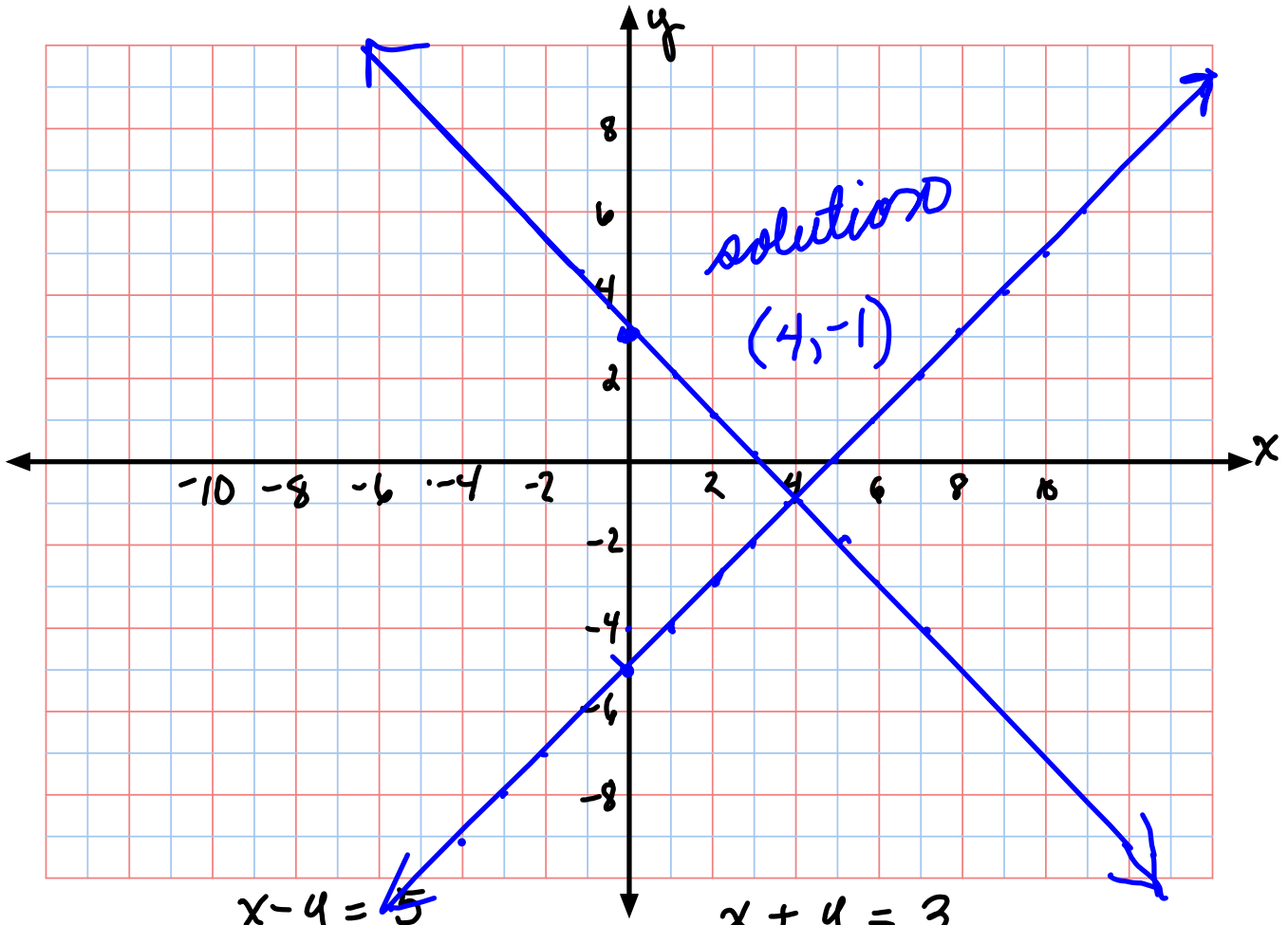
$+10 \quad +10$

$0 = 0$ TRUE

There are an infenite of soluteions

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





$x - y = 5$
$-x \quad -x$

$-y = -x + 5$

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

$y = x - 5$

$x + y = 3$
$-x \quad -x$

$y = -x + 3$

(14) The diff of 2 numbers is 6, their sum is 30. Find the two numbers.

Let x = the 1st number

y = the 2nd number

$$x - y = 6$$
$$x + y = 30$$

$$2x = 36$$

$$\frac{2x}{2} = \frac{36}{2}$$

$$x = 18$$

$$30 - 18 = 12$$

The two numbers are 18 and 12.

(15) Twice as much at 5% as she did at 6%
total interest $520 ✓

let x = the amt invested at 6%
$y = 2x$ = the amt invested at 5%

	amt	rate	interest
5%	$2x$	.05	$.05(2x)$
6%	x	.06	$.06x$
total			520

$$100[.05(2x) + .06x = 520]$$

$$5(2x) + 6x = 52000$$

$$10x + 6x = 52000$$

$$\frac{16x}{16} = \frac{52000}{16}$$

$$x = 3250$$

$$2x = 6500$$

$$16\overline{)52000}\quad 32$$
48
40
36
40

$3250 was invested at 6%
and $6500 was invested at 5%