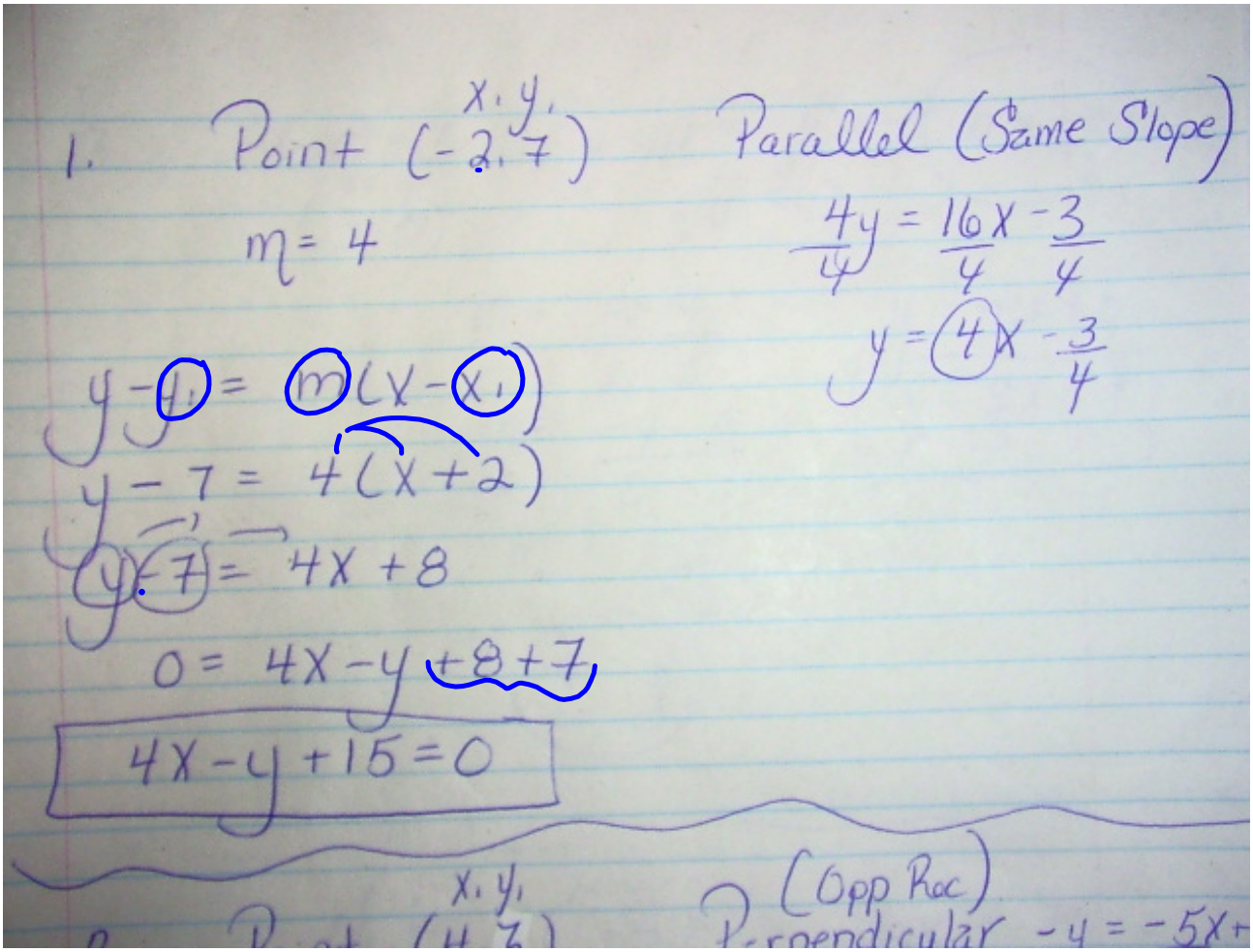


1. Point $(-2, 7)$ x_1, y_1

$m = 4$

Parallel (Same Slope)

$\frac{4y}{4} = \frac{16x}{4} - \frac{3}{4}$

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

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

$y - 7 = 4(x + 2)$

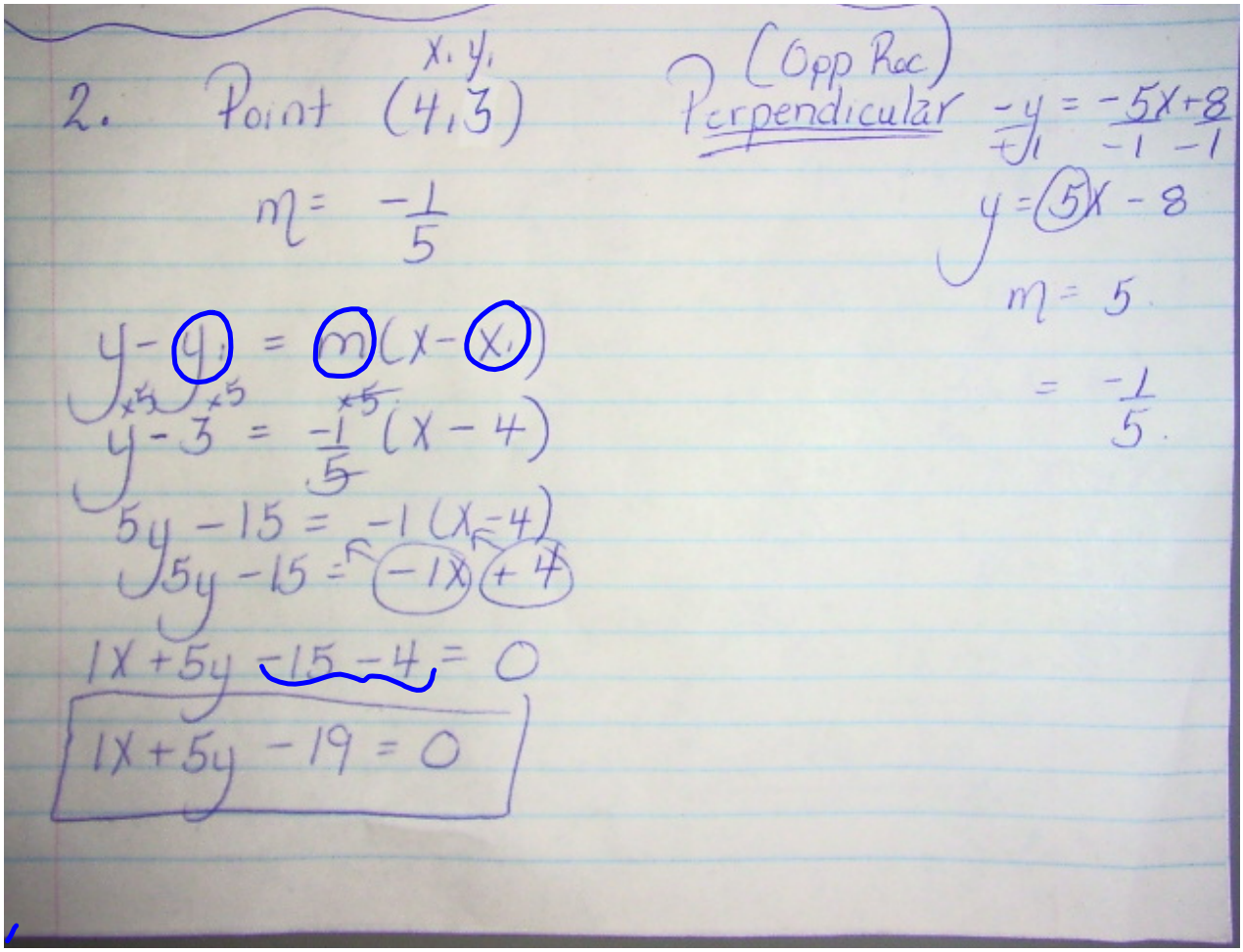
$y - 7 = 4x + 8$

$0 = 4x - y + 8 + 7$

$\boxed{4x - y + 15 = 0}$

2. Point $(4, 3)$ x_1, y_1 (Opp Rec)

Perpendicular $-4 = -5x +$



2. Point $(4, 3)$ x_1, y_1

$m = -\frac{1}{5}$

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

$y - 3 = -\frac{1}{5}(x - 4)$

$5y - 15 = -1(x - 4)$

$5y - 15 = -1x + 4$

$1x + 5y - 15 - 4 = 0$

$1x + 5y - 19 = 0$

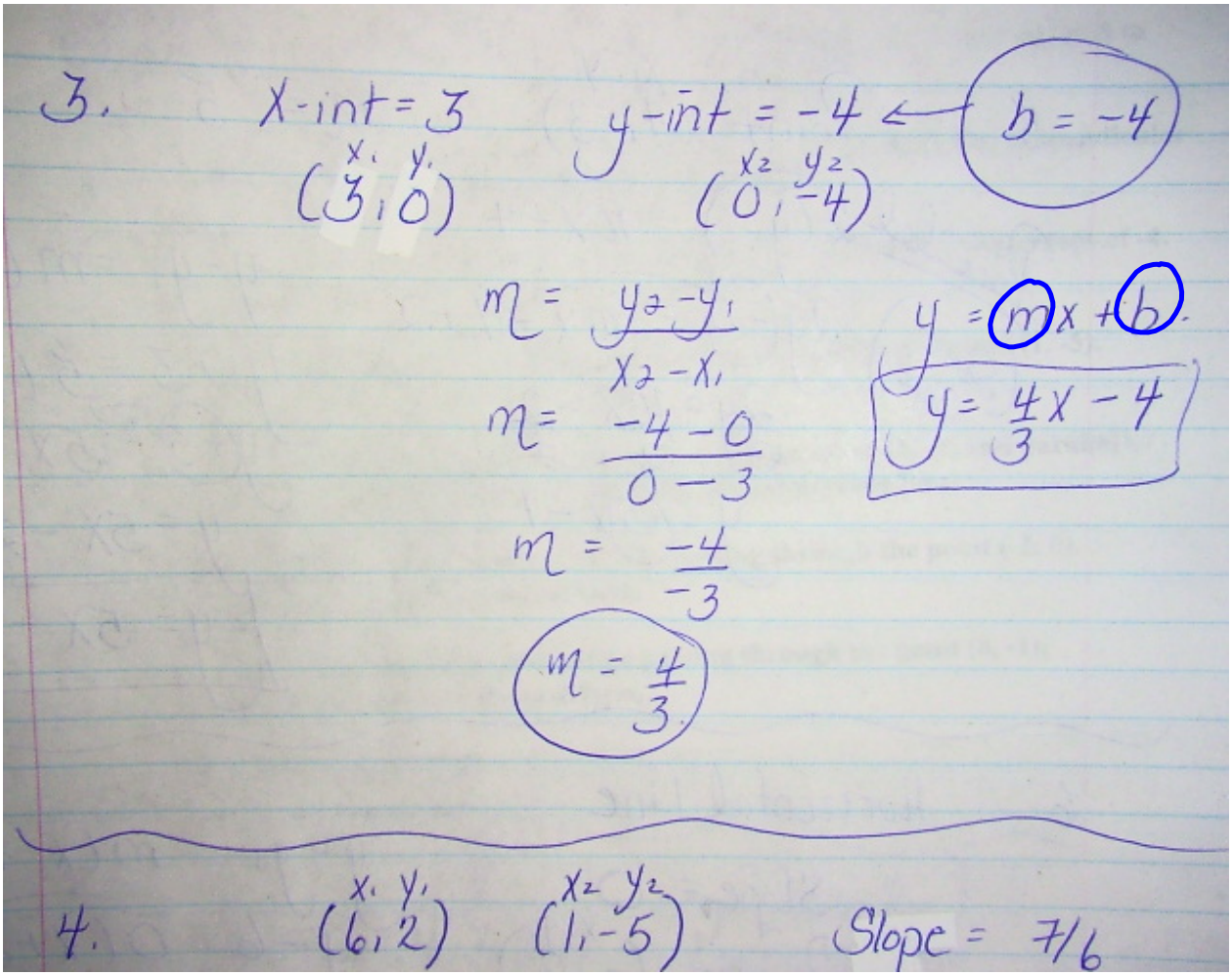
Perpendicular (Opp Rec)

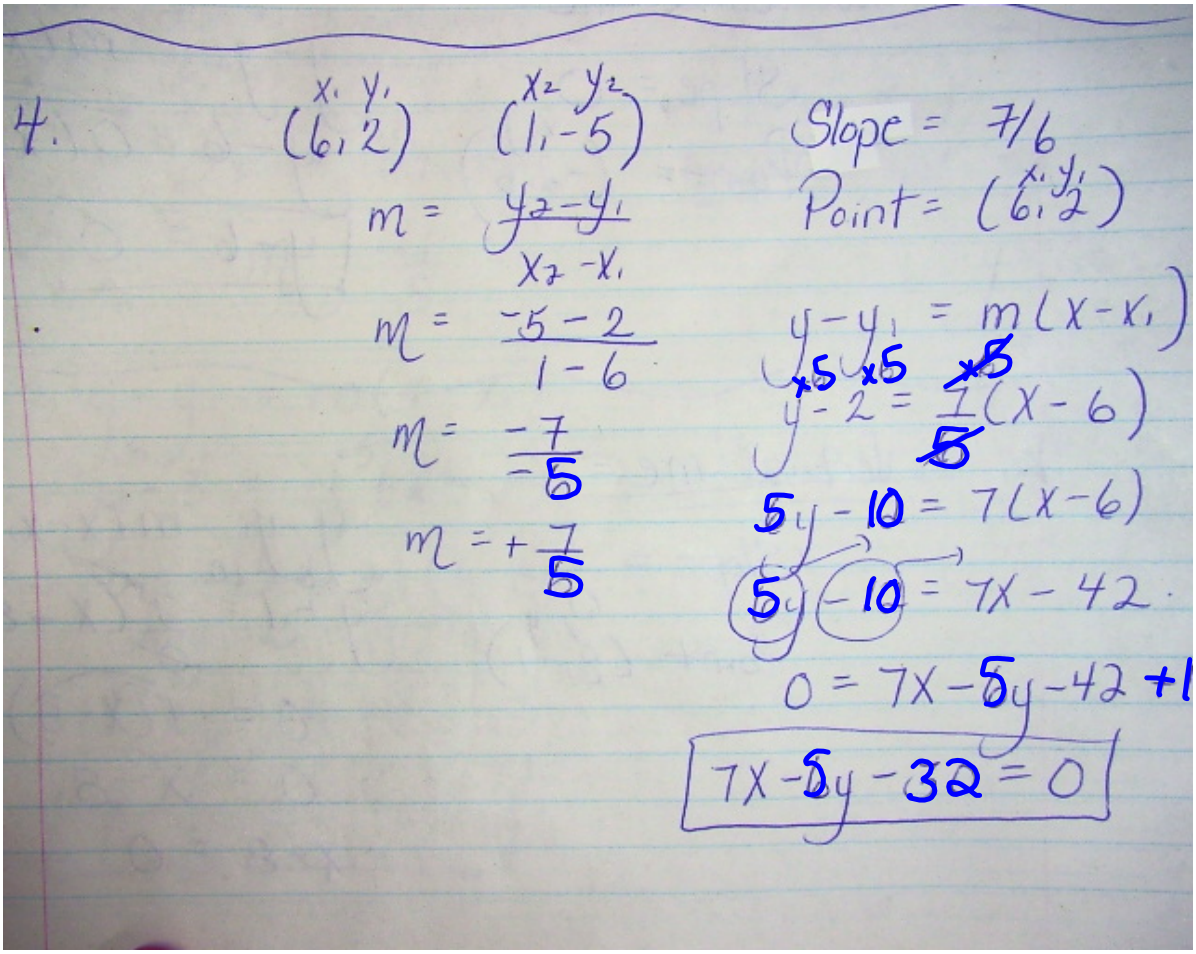
$-y = -5x + 8$

$y = 5x - 8$

$m = 5$

$= -\frac{1}{5}$


3.
x-int = 3
(3, 0)
y-int = -4
(0, -4)
b = -4
m = y2 - y1 / x2 - x1
m = -4 - 0 / 0 - 3
m = -4 / -3
m = 4/3
y = mx + b
y = 4/3 x - 4
4.
(6, 2)
(1, -5)
Slope = 7/6



4. (x_1, y_1) $(6, 2)$ (x_2, y_2) $(1, -5)$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$m = \frac{-5 - 2}{1 - 6}$$

$$m = \frac{-7}{-5}$$

$$m = +\frac{7}{5}$$

Slope = 7/6

Point = (x_1, y_1) $(6, 2)$

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

$$y - 2 = \frac{7}{5}(x - 6)$$

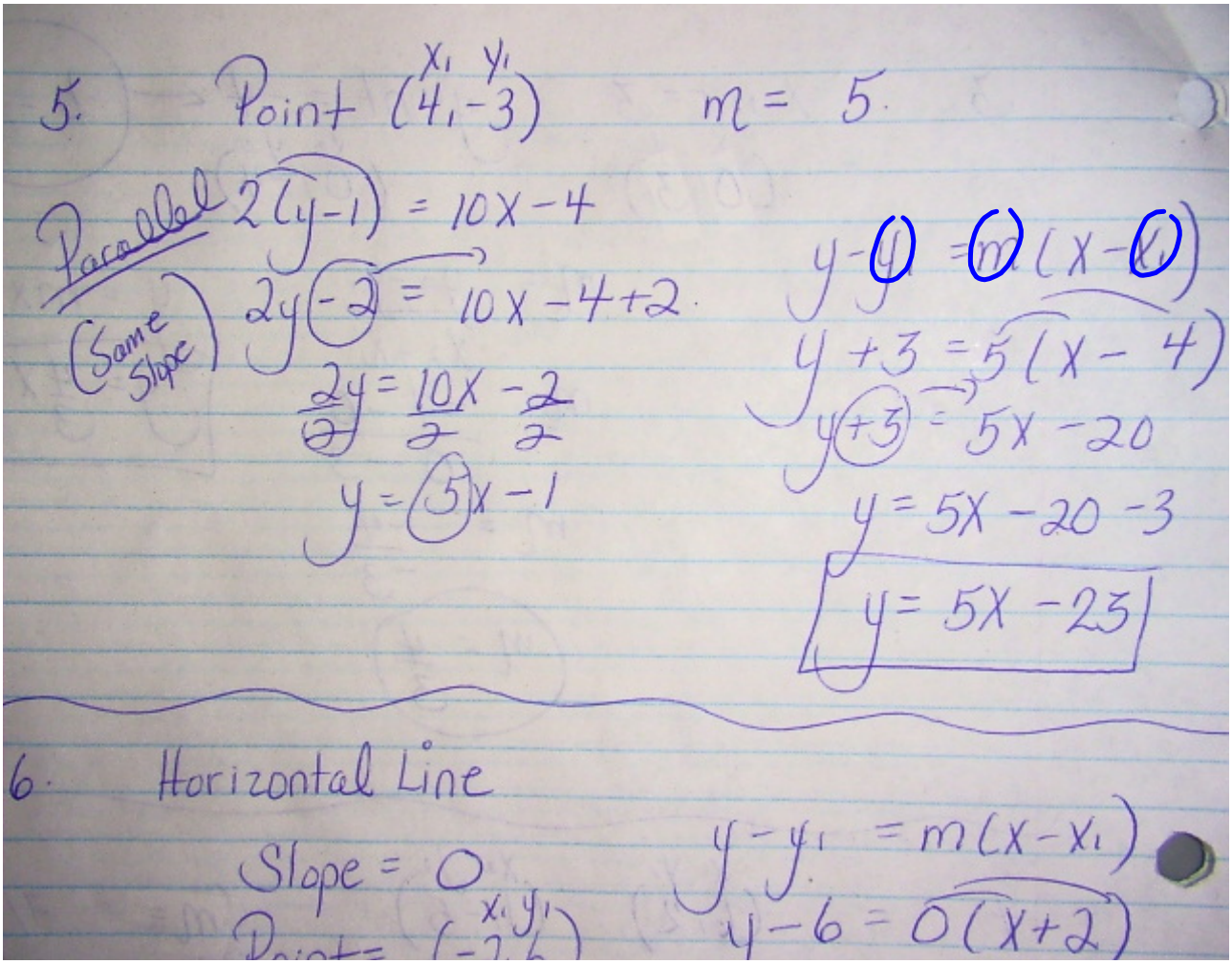
$\times 5$ $\times 5$ $\times 5$

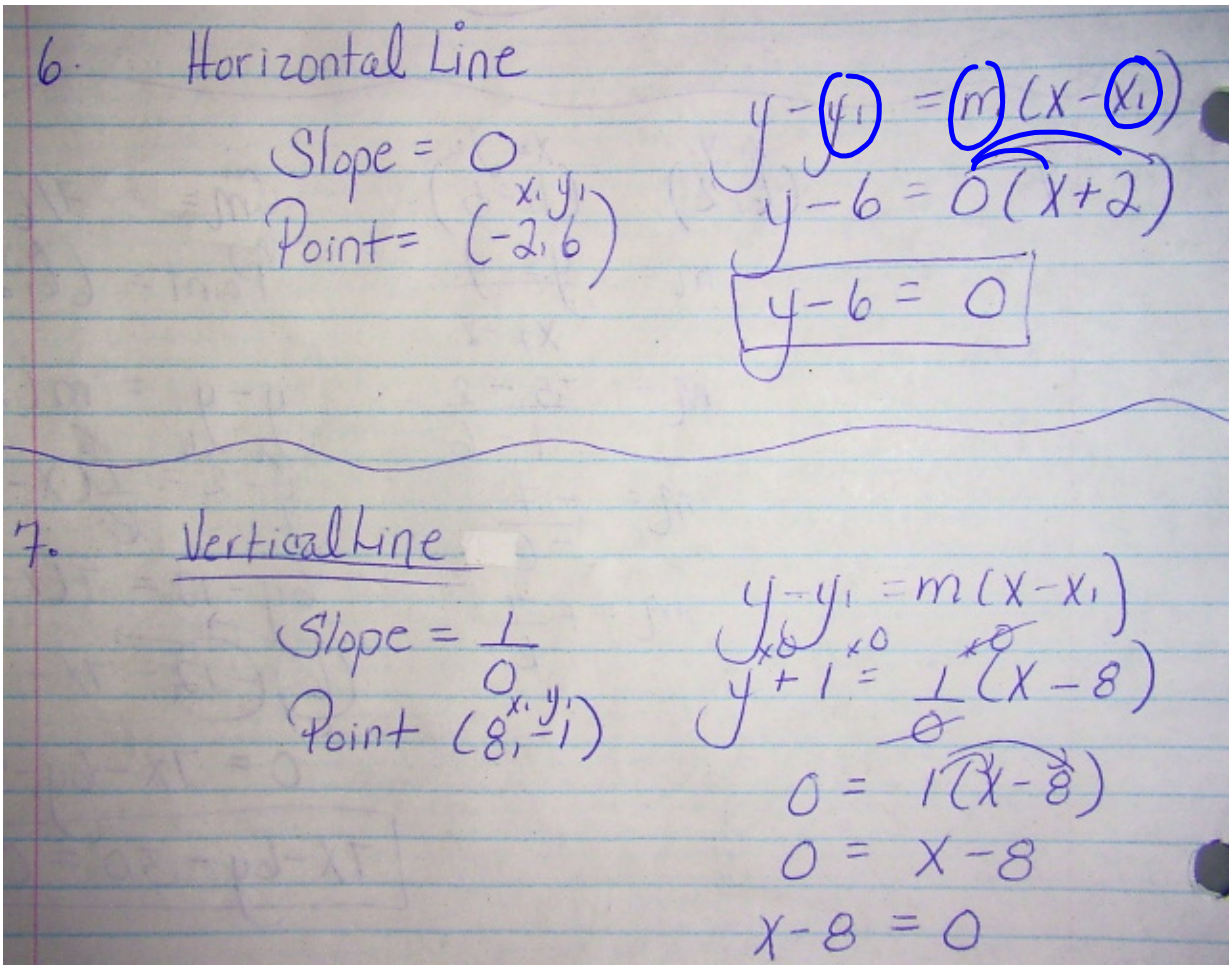
$$5y - 10 = 7(x - 6)$$

$$5y - 10 = 7x - 42$$

$$0 = 7x - 5y - 42 + 10$$

$$7x - 5y - 32 = 0$$


5. Point $(4, -3)$ x_1 y_1 $m = 5$
Parallel (Same Slope)
$2(y-1) = 10x - 4$
$2y - 2 = 10x - 4 + 2$
$\frac{2y}{2} = \frac{10x}{2} - \frac{2}{2}$
$y = 5x - 1$
$y - y_1 = m(x - x_1)$
$y + 3 = 5(x - 4)$
$y + 3 = 5x - 20$
$y = 5x - 20 - 3$
$y = 5x - 23$
6. Horizontal Line
Slope = 0
x_1, y_1
$y - y_1 = m(x - x_1)$
$y - 6 = 0(x + 2)$


6. Horizontal Line
Slope = 0
Point = (-2, 6)
x1 y1
y - y1 = m(x - x1)
y - 6 = 0(x + 2)
y - 6 = 0
7. Vertical Line
Slope = 1/0
Point (8, -1)
x1 y1
y - y1 = m(x - x1)
y + 1 = 1/0 (x - 8)
0 = 1(x - 8)
0 = x - 8
x - 8 = 0