1. Point $(\overset{x_1}{-2}, \overset{y_1}{7})$

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

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

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

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

$y - 7 = 4x + 8$

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

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

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

Opp Rec Slope: $\frac{5}{1} \nearrow -\frac{1}{5}$

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

$\frac{-1}{1}y = \frac{-5x}{-1} + \frac{8}{-1}$

$y = 5x - 8$

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

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

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

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

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

$x + 5y - 19 = 0$

3.

x-int = $(3, 0)$ (x_1, y_1)

y-int = $(0, -4)$ (x_2, y_2)

$b = -4$

$y = mx + b$

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

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

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

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

$= \frac{4}{3}$

4. $(6, 2)$ $(1, -5)$

$x_1\ y_1$ $x_2\ y_2$

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

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

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

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

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

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

$$y + 5 = \frac{7}{5}(x-1) \checkmark$$

5. $(4, -3)$ (x_1, y_1)

Same Slope:

$m = 5$

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

$y + 3 = 5(x - 4)$

$y + 3 = 5x - 20 - 3$

$y = 5x - 23$

$2(y - 1) = 10x - 4$

$2y - 2 = 10x - 4 + 2$

$\frac{2y}{2} = \frac{10x}{2} - \frac{2}{2}$

$y = 5x - 1$

6. Hor Line = 0

$m = 0$

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

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

$y - 6 = 0(x + 2)$

$y - 6 = 0$

7.

Vertical = $\frac{1}{0}$

Point = $(8, -1)$ (x_1, y_1)

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

$y + 1 = \frac{1}{0}(x - 8)$

$0 = 1(x - 8)$

$0 = x - 8$

$x - 8 = 0$