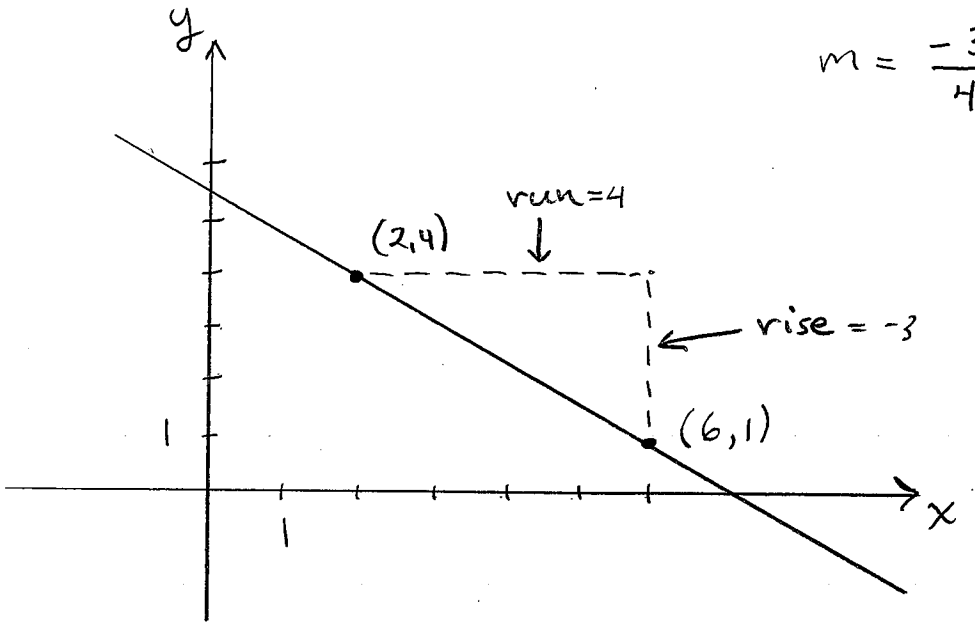
(1) [5] Neatly graph the line containing the point $P = (2, 4)$ and having slope $m = -3/4$.



$m = \frac{-3}{4}$ ← rise
← run

(2) [5] Determine an equation of the line with x-intercept $(2, 0)$ and y-intercept $(0, -1)$.

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

$$= \frac{0 - (-1)}{2 - 0}$$

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

Since y-intercept is $(0,-1)$, $b = -1$.

∴ by slope-intercept formula,

$$y = mx + b$$

$$\boxed{y = \frac{1}{2}x - 1}$$

(3) [5] Determine the point of intersection of the following pair of lines:

$$L: \quad 3x - 4y = 2$$
$$M: \quad x + 2y = 4$$

using M: $x = 4 - 2y$

sub. into L: $3x - 4y = 2$

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

$12 - 6y - 4y = 2$

$12 - 10y = 2$

$-10y = -10$

$y = 1$

Now use $x = 4 - 2y$:

$x = 4 - 2(1)$

$= 2$

∴ Point of intersection is $(2, 1)$

Check: L: $3x - 4y$ | 2

$3(2) - 4(1)$ | 2

$6 - 4$ | 2

$2 = 2$ ✓

M: $x + 2y$ | 4

$2 + 2(1)$ |

$2 + 2$ |

$4 = 4$ ✓