

48/ Ex 1.1 $m = \frac{1}{2}$; passing through $(3, 1)$

(1)

Equation of the line is

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

$$2y - 2 = x - 3$$

$$\underline{\underline{1 = x - 2y}}$$

50/ the line contains the points $(-3, 4)$ and $(2, 5)$

$$\text{slope of the line} = \frac{5 - 4}{2 - (-3)} = \frac{1}{5}$$

Equation of the line is

$$y - 5 = \frac{1}{5}(x - 2)$$

$$5y - 25 = x - 2$$

$$\underline{\underline{-23 = x - 5y}}$$

52/ slope = -3 ; y-intercept = $(0, -2)$

Equation of the line is

$$y = -3x - 2$$

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

(2)

Ex 1.1

$m = -3$

passing through $(4, -3)$

Equation of the line is

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

$y + 3 = 3x - 12$

$\underline{y + 15 = 3x - 4}$

60/ slope is undefined; passing through $(2, 1)$

Since slope is undefined, it is a vertical line.
 Its equation is $x = 2$ because it passes through the point $(2, 1)$

68/

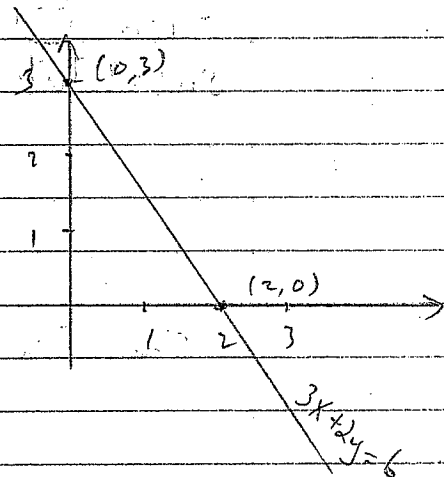
$3x + 2y = 6$

$2y = -3x + 6$

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

$\text{slope} = \underline{-\frac{3}{2}}$

$y\text{-intercept} : \underline{(0, 3)}$

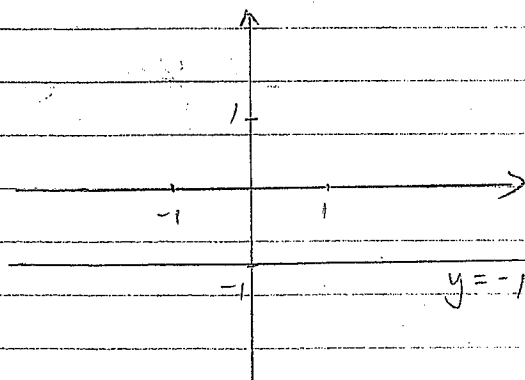


72/

$y = -1$

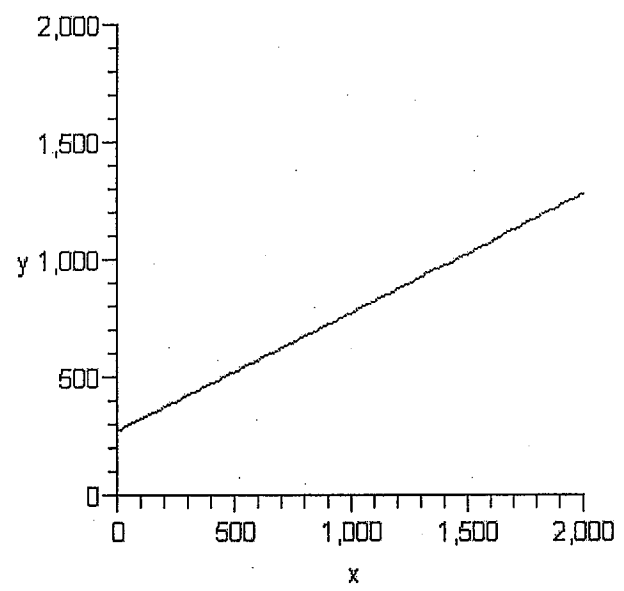
$\text{slope} = \underline{0}$

$y\text{-intercept} : (0, -1)$



Ex. 1.1

96. (a) $C = 280 + 0.50x$
(b) if $x = 500$ then $C = 280 + 0.50(500) = 530$
(c)



- (d) slope is \$0.50, the cost per mile.
(e) y-intercept is \$280, the fixed cost per week.

Ex 1.1

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Equation of line is

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$$\underline{\underline{1 = x - 2y}}$$

100/ There were 8 diseased mice in 4 days
and 14 diseased mice in 6 days

Let x be the no. of days after first exposure

y be the no. of diseased mice

then $(4, 8)$ and $(6, 14)$ are two points on the line

$$\text{slope of the line} = \frac{14 - 8}{6 - 4} = \frac{6}{2} = 3$$

Equation of the line is $y - 8 = 3(x - 4)$

$$y = 3x - 12 + 8$$

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

If there are 40 mice then $y = 40$

$$40 = 3x - 4$$

$$44 = 3x$$

$$x = 14\frac{2}{3}$$

It will take $14\frac{2}{3}$ days to infect all 40 mice

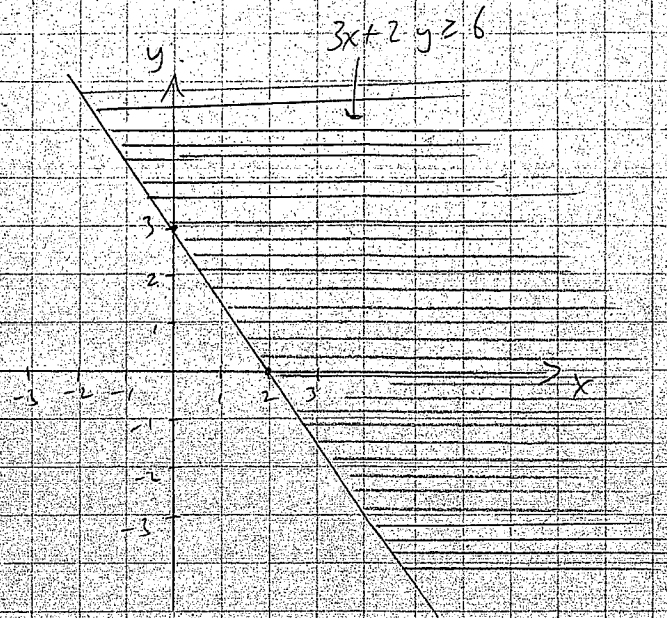
5

Ex 3.1

16/ Graph $3x + 2y \geq 6$

Test $(0, 0)$:

$$3(0) + 2(0) \neq 6$$



18/ Graph $x + 2y \geq 4$

Test $(0, 0)$:

$$0 + 2(0) > 4 \text{ is false}$$

$(0, 0)$ does not belong
the solution set

