

#1 S.I. Practice

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|---------------------------|------------------------------------|
| ① $y = 2x + 10$ | ⑪ $m = 3$ $b = (0, -10)$ |
| ② $y = -2x + 10$ | ⑫ $m = -2$ $b = (0, 5)$ |
| ③ $y = -\frac{1}{2}x$ | ⑬ $m = \frac{1}{2}$ $b = (0, 3)$ |
| ④ $y = -x - 2$ | ⑭ $m = -\frac{1}{3}$ $b = (0, -1)$ |
| ⑤ $y = 8x + 5$ | ⑮ $m = -1$ $b = (0, 2)$ |
| ⑥ $y = -3x - 3$ | ⑯ $m = 1$ $b = (0, 4)$ |
| ⑦ $y = 10x - 1$ | ⑰ $m = -\frac{2}{3}$ $b = (0, -2)$ |
| ⑧ $y = -x + 2$ | ⑱ $m = \frac{2}{3}$ $b = (0, -2)$ |
| ⑨ $y = 2x - 1$ | |
| ⑩ $y = -\frac{3}{4}x - 4$ | |

⑲ Slope is rate of change. It tells us as x -value \uparrow by one, what happens to the y -value.

⑳ y -intercept is the starting point. It tells us surcharge, head start, or what the y value is when $x = 0$.

㉑ a) $P = 15x + 300$

b) $m = 15$; It means the salesperson earns \$15 / TV sold.

c) $b = 300$; It represents the salesperson's base salary.

d) $P = 15(10) + 300$
 $P = \$450$

#7 S.I. Practice

① $y = \frac{2}{3}x + 3$

② $y = x - 1$

③ $y = -\frac{4}{5}x + 8$

④ $4 = \frac{1}{3}(-2) + b$

$4 = -\frac{2}{3} + b$

$4\frac{2}{3} = b$

$y = \frac{1}{3}x + 4\frac{2}{3}$

⑤ $-3 = -2(1) + b$

$-3 = -2 + b$

$-1 = b$

$y = -2x - 1$

⑥ $y = 4x + 5$

⑦ $(1, 4) (0, 3)$

$\frac{3-4}{0-1} = \frac{-1}{-1} = 1$

$y = x + 3$

⑧ $(2, -1) (-4, 1)$

$\frac{1+(-1)}{-4-2} = \frac{0}{-6} = -\frac{1}{3}$

$1 = -\frac{1}{3}(-4) + b$

$1 = \frac{4}{3} + b$

$-\frac{1}{3} = b$

$y = -\frac{1}{3}x - \frac{1}{3}$

⑨ $(-3, -2) (4, 10)$

$10 - (-2) = 12$

$4 - (-3) = 7$

$-2 = \frac{12}{7}(-3) + b$

$-2 = -\frac{36}{7} + b$

$\frac{10}{7} = b$

$y = \frac{10}{7}x + \frac{10}{7}$

⑩ $-2x - 4y = 8$

$+2x \quad \quad \quad +2x$

$-4y = 2x + 8$

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

⑪ $7x + 3y = 24$

$-7x \quad \quad \quad -7x$

$3y = -7x + 24$

$y = -\frac{7}{3}x + 8$

⑫ $-4x - y = 6$

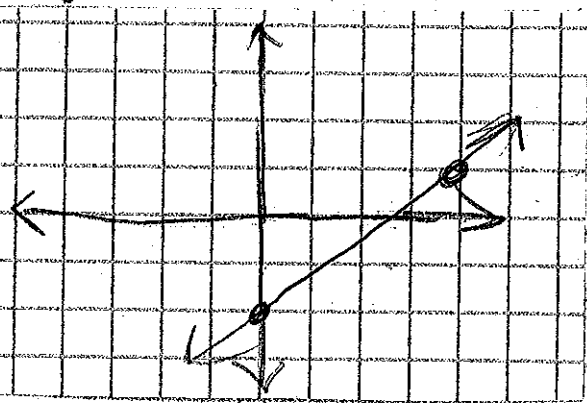
$+4x \quad \quad \quad +4x$

$-y = 4x + 6$

$y = -4x - 6$

13

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

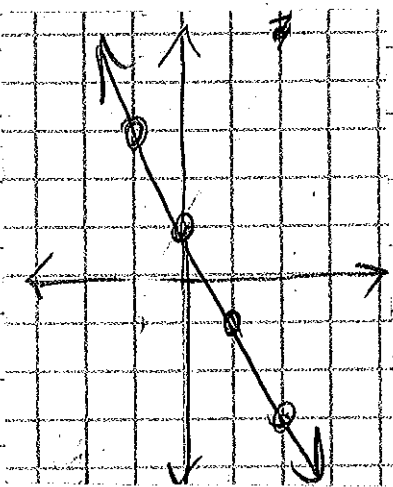


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$$y = -\frac{1}{2}x + 2$$

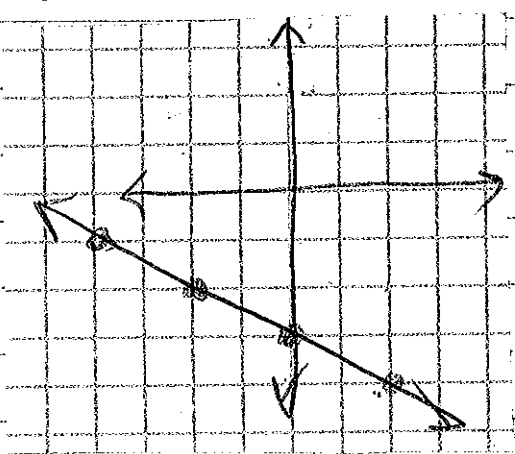
14

$$y = -2x + 1$$



15

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



Writing S.I. Equations #8

① $m=2$ (3, 2)

$$2 = 2(3) + b$$

$$2 = 6 + b$$

$$-4 = b$$

$$\boxed{y = 2x - 4} \text{ (P)}$$

⑤ $m=-1$ (5, -2)

$$-2 = -1(5) + b$$

$$-2 = -5 + b$$

$$3 = b$$

$$\boxed{y = -x + 3} \text{ (U)}$$

② $m=-3$ (1, 4)

$$4 = 1(-3) + b$$

$$4 = -3 + b$$

$$7 = b$$

$$\boxed{y = -3x + 7} \text{ (D)}$$

⑥ $m = \frac{1}{2}$ (6, 1)

$$1 = \frac{1}{2}(6) + b$$

$$1 = 3 + b$$

$$-2 = b$$

$$\boxed{y = \frac{1}{2}x - 2} \text{ (H)}$$

③ $m=-5$ (-1, 3)

$$3 = -5(-1) + b$$

$$3 = 5 + b$$

$$-2 = b$$

$$\boxed{y = -5x - 2} \text{ (M)}$$

⑦ $m = -\frac{2}{3}$ (3, 4)

$$4 = -\frac{2}{3}(3) + b$$

$$4 = -2 + b$$

$$6 = b$$

$$\boxed{y = -\frac{2}{3}x + 6} \text{ (I)}$$

④ $m=3$ (-4, -7)

$$-7 = 3(-4) + b$$

$$-7 = -12 + b$$

$$5 = b$$

$$\boxed{y = 3x + 5} \text{ (E)}$$

⑧ $m = \frac{4}{3}$ (-2, 0)

$$0 = \frac{4}{3}(-2) + b$$

$$0 = -\frac{8}{3} + b$$

$$\frac{8}{3} = b$$

$$\boxed{y = \frac{4}{3}x + \frac{8}{3}} \text{ (F)}$$

$$(9) \quad m = -\frac{1}{4} \quad (2, 1)$$

$$1 = -\frac{1}{4}(2) + b$$

$$1 = -\frac{1}{2} + b$$

$$\frac{3}{2} = b$$

$$\boxed{y = -\frac{1}{4}x + \frac{3}{2}} \quad (J)$$

$$(10) \quad m = 4 \quad (-1, \frac{1}{2})$$

$$\frac{1}{2} = 4(-1) + b$$

$$\frac{1}{2} = -4 + b$$

$$\frac{9}{2} = b$$

$$\boxed{y = 4x + \frac{9}{2}} \quad (T)$$

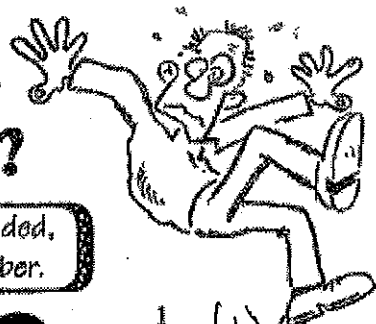
$$(11) \quad m = -2 \quad (0, 0)$$

$$\boxed{y = -2x} \quad (L)$$

$$(12) \quad m = 0 \quad (-5, \frac{3}{4})$$

$$\boxed{y = \frac{3}{4}} \quad (S)$$

What Happened to the Guy Who Fell Into an Upholstery Machine?



Use the slope and y-intercept to graph each equation. The graph, if extended, will cross a letter. Write this letter in the box containing the exercise number.

1 $y = \frac{3}{4}x - 2$ (U)

2 $y = -2x + 1$ (E)

3 $y = -\frac{5}{2}x - 4$ (K)

4 $y = \frac{1}{3}x + 4$ (D)

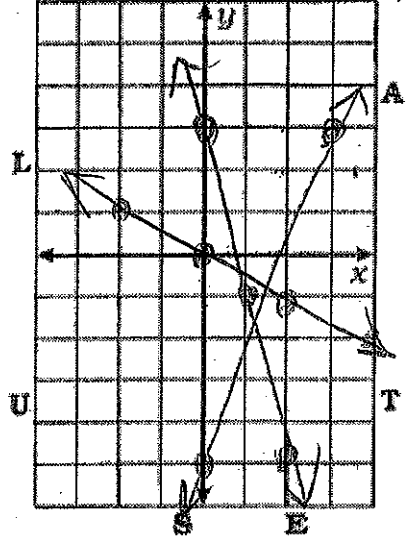
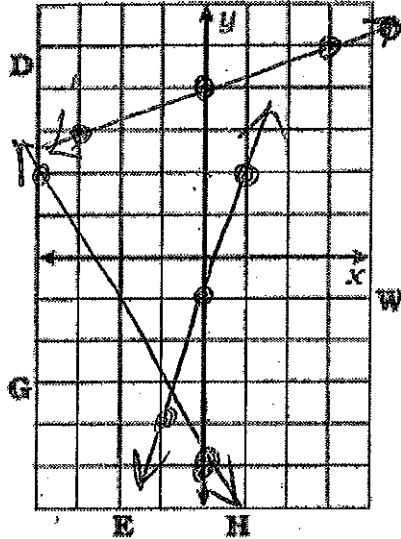
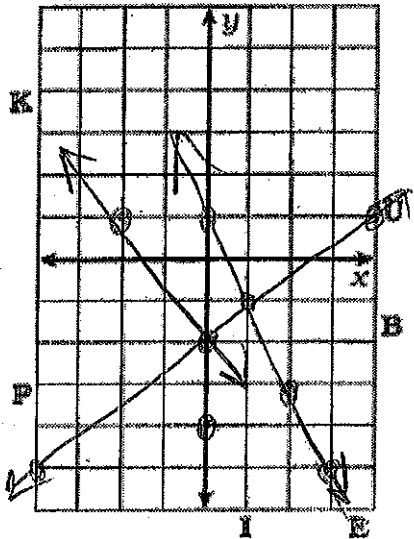
5 $y = 3x - 1$ (E)

6 $y = -\frac{7}{4}x - 5$ (H)

7 $y = -\frac{1}{2}x$ (L)

8 $y = -4x + 3$ (E)

9 $y = \frac{8}{3}x - 5$ (S)



10 $y = x + 3$ (Y)

11 $y = -x - 4$ (D)

12 $y = x$ (E)

13 The temperature is -6°C and rising at a rate of 2° per hour. (V)

14 The temperature is 12°C and dropping at a rate of 3° per hour. (R)

15 $y = 5$ (E)

17 $y = -1$ (L)

16 $x = -2$ (R)

18 $x = 3$ (C)

