

14.  $(4, -9) \quad y = \frac{1}{4}x + 2$

a.  $m = \frac{1}{4}$

$-9 = \frac{1}{4} \cdot 4 + b$

$-9 = 1 + b$

$-10 = b$

$y = \frac{1}{4}x - 10$

b.  $m = -4$

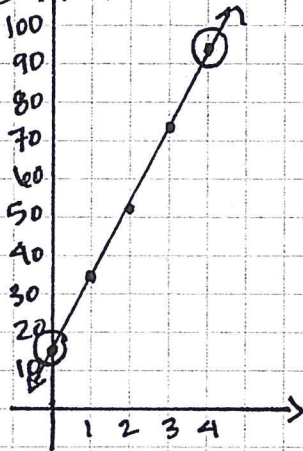
$-9 = -4 \cdot 4 + b$

$-9 = -16 + b$

$7 = b$

$y = -4x + 7$

15. By hand



$(0, 15) \quad (4, 94)$

$m = \frac{94-15}{4-0}$

$m = \frac{79}{4}$

$y = \frac{79}{4}x + 15$

linear regression

18. e. ~~16,000~~ facilities?

$y = 16$

$16 = .28x + 14.6$

$1.4 = .28x$

$5 = x$

In 2002 there will be 16,000 facilities

linear extrapolation

16. on calculator

$y = 5.27x - 3.88$

linear regression

17.  $(0, 60) \quad m = 3$

$C = \text{cost} \quad p = \# \text{ of people}$   
 $10 \neq 3m$

$C = 3p + 60$

18. a. on calculator

b.  $y = 0.28x + 14.6$

linear regression

$y = \# \text{ of golf facilities}$   
 $x = \text{years since 1997}$

c. 280 facilities per year

d.  $x = 7$

$y = .28 \cdot 7 + 14.6$

$y = 16.56$

about 16,560 golf facilities

linear extrapolation

AS#16

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①  $y = 5x - 7$

②  $y = \frac{2}{3}x - 2$

③  $y = -\frac{4}{3}x + 1$

④  $(-2, -8); m = 3$

$$-8 = 3 \cdot -2 + b$$

$$-8 = -6 + b$$

$$-2 = b$$

$$\boxed{y = 3x - 2}$$

⑤  $(1, 1); m = -4$

$$1 = -4 \cdot 1 + b$$

$$1 = -4 + b$$

$$5 = b$$

$$\boxed{y = -4x + 5}$$

⑥  $(-1, 3); m = -6$

$$3 = -6 \cdot -1 + b$$

$$3 = 6 + b$$

$$-3 = b$$

$$\boxed{y = -6x - 3}$$

⑦  $(4, 5) (2, 9)$

$$m = \frac{9-5}{2-4}$$

$$= \frac{4}{-2}$$

$$\boxed{m = -2}$$

$$\begin{aligned} y - 5 &= -2(x - 4) \\ \text{or} \\ y - 9 &= -2(x - 2) \end{aligned}$$

⑧  $(-2, 2) (8, -3)$

$$m = \frac{-3-2}{8+2}$$

$$\boxed{m = -\frac{1}{2}}$$

$$\begin{aligned} y - 2 &= -\frac{1}{2}(x + 2) \\ \text{or} \\ y + 3 &= -\frac{1}{2}(x - 8) \end{aligned}$$

⑨  $(3, 4) (1, -6)$

$$m = \frac{-6-4}{1-3}$$

$$\boxed{m = 5}$$

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

or

$$y + 6 = 5(x - 1)$$

⑩  $m = 10 (6, 2)$

$$y - 2 = 10(x - 6)$$

$$y - 2 = 10x - 60$$

$$\boxed{-10x + y = -58}$$

⑪  $(-3, 2) (6, -1)$

$$m = \frac{-1-2}{6+3}$$

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

$$3(y + 1) = -\frac{1}{3}(x - 6)$$

$$3y + 3 = -x + 6$$

$$\boxed{x + 3y = 3}$$

⑫  $(2, 0) \quad y = -5x + 3$

a.  $m = -5$

$$0 = -5 \cdot 2 + b$$

$$0 = -10 + b$$

$$10 = b$$

$$\boxed{y = -5x + 10}$$

b.  $m = \frac{1}{5}$

$$0 = \frac{1}{5} \cdot 2 + b$$

$$0 = \frac{2}{5} + b$$

$$-\frac{2}{5} = b$$

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

⑬  $(-1, 4); \quad y = -x - 4$

a.  $m = -1$

$$y - 4 = -1(x + 1)$$

$$y - 4 = -x - 1$$

$$\boxed{y = -x + 3}$$

b.  $m = 1$

$$y - 4 = 1(x + 1)$$

$$y - 4 = x + 1$$

$$\boxed{y = x + 5}$$