homework review -
p. 297   #30

x	~~f(x)~~ y
(-4	6)
(4	4) ←
(8	3) ←
(12	2)

$(\overset{x_1 \ y_1}{4, 4})$ $(\overset{x_2 \ y_2}{8, 3})$

$m = \dfrac{y_2 - y_1}{x_2 - x_1}$ $\dfrac{3-4}{8-4} = \dfrac{-1}{4}$

$y = \dfrac{-1}{4}x + b$

$y = \dfrac{-1}{4}x + 5$

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

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

$5 = b$

⑮ $\left(\frac{9}{2}, 1\right)$ $\left(-\frac{7}{2}, 7\right)$

$x_1 \quad y_1$ $\quad\quad x_2 \quad y_2$

$m = \dfrac{y_2 - y_1}{x_2 - x_1} = \dfrac{7 - 1}{-\frac{7}{2} - \frac{9}{2}} = \dfrac{6}{\frac{-16}{2}} = \dfrac{6}{-8} = \dfrac{-3}{4}$

$y = \dfrac{-3}{4}x + b$

$7 = \dfrac{-3}{4}\left(\dfrac{-7}{2}\right) + b$

$7 = \dfrac{21}{8} + b$

$7 - \dfrac{21}{8} = \dfrac{56}{8} - \dfrac{21}{8} = \dfrac{35}{8} = b$

$y = \dfrac{-3}{4}x + \dfrac{35}{8}$

$1 = \dfrac{-3}{4}\left(\dfrac{9}{2}\right) + \dfrac{35}{8}$

$1 = \dfrac{-27}{8} + \dfrac{35}{8}$

$\checkmark 1 = \dfrac{8}{8} = 1 \checkmark$

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(50) $27.80

in 2001: total cost = $914

(#a)

$$27.80$$
$$\times \quad 20$$
$$\overline{556.00}$$

$$8914$$
$$- 556$$
$$\overline{358}$$

$$27.8$$
$$\times \quad 19$$
$$\overline{2502}$$
$$2780$$
$$\overline{528.2}$$
$$358.0$$
$$\overline{886.2}$$

in 1981: $358

(#b) $y = 358 + 27.8x$

(#c) $y = 358 + 27.8(19)$

$y = 886.20$

(52) 175 rate of increase

19306 - 2001

(#a)

$$175$$
$$\times \; 11$$
$$\overline{175}$$
$$175$$
$$\overline{1925}$$

$$19\overset{8}{\cancel{3}}\overset{2}{\cancel{3}}06$$
$$1925$$
$$\overline{\boxed{17381}}$$

$$19\overset{8}{\cancel{2}}\overset{1}{\cancel{0}}0\overset{1}{\cancel{0}}$$
$$17381$$
$$\overline{1819}$$

(#b) $y = 175x + 17381$

(#c) $19200 = 175x + 17381$
$$1819 = 175x$$
$$10 \approx x$$

$1990 + {\sim}10 =$

$$\boxed{2000}$$

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