

PC Sec 2-1 p. 84 (1-18)

- ① I: # of Chores
D: Allowance
- ② I: Attendance
D: Participation Grade

- ③ I: Sunlight + Water
D: Tree growth

④ Domain: input values (independent variable)

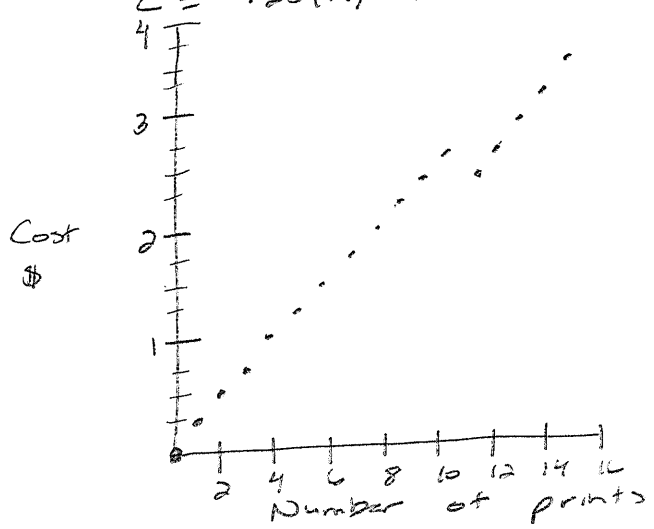
⑤ Range: output values (dependent variable)

⑥ a) cost is a function of # of prints

b) $Cost = .25(20) - .5 = \boxed{\$4.50}$

- c) (0,0) (1,0.25) (2,0.5) (3,0.75) (4,1) (5,1.25)
 (6,1.5) (7,1.75) (8,2) (9,2.25) (10,2.5) (11,2.75)
 (12,2.5) (13,2.75) (14,3) (15,3.25) (16,3.5)

d) $C = .25(n)$ for $0 \leq n < 12$
 $C = .25(n) - 0.5$ for $n \geq 12$



e)
$$C = \begin{cases} 0.25(n) & \text{for } 0 \leq n < 12 \\ 0.25(n) - 0.5 & \text{for } n \geq 12 \end{cases}$$

- ⑦ a) f b) y c) f(x) d) x

⑧ a) $g(-7) = (-7)^2 - 5 = 49 - 5 = \boxed{44}$

b) $12 = \frac{t^2 - 5}{t + 5}$ $\sqrt{t^2} = \sqrt{17}$ $t = \pm \sqrt{17}$

8) c) $\{t \mid t \in \mathbb{R}\}$

d) $\{y \mid y \geq -5\}$

e) $g(p+3) = (p+3)^2 - 5$
 $= (p+3)(p+3) - 5$
 $= p^2 + 6p + 9 - 5$
 $= p^2 + p + 4$

9) a) $h(q-1) = \sqrt{(q-1) + 3}$
 $= \sqrt{q + 2}$

b) $(3)^2 = (\sqrt{q+2})^2$

$9 = q + 2$
 -2

$q = 7$

10) Not a function

11) function

12) not a function

13) a) D: $\{x \mid x - 2 \leq x \leq 5.7\}$

b) $f(2) = -0.4$

R: $\{y \mid y - 2.5 \leq y \leq 2.4\}$

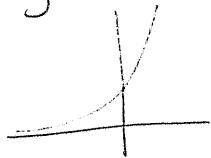
c) $x = 0$ or $x = 4$

14) a) $y = 0.814(1.093)^{95} = \3798 Billion

* Less than observed value of \$4974 Billion

b) 1979

15) $y = 3 \cdot 2^x$



D: $\{x \mid x \in \mathbb{R}\}$

R: $\{y \mid y > 0\}$

Yes, function

16) $y = -\sqrt{x}$



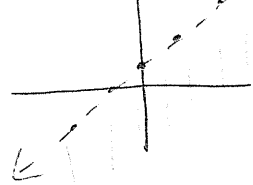
D: $\{x \mid x \geq 0\}$

R: $\{y \mid y \leq 0\}$

Yes, function

b) About 4.2

17) $y < x + 1$



- Not a function

- Fails V.L.T.

c) About 1.3

18) a) D: $\{t \mid t \in \mathbb{R}\}$
R: $\{y \mid y > 3\}$