

$$f(x) = 3x^2 - 5 \quad g(x) = \frac{4x-2}{2} \quad \underline{h(x)} = 3(x-3)^2 + 4 \quad \underline{i(x)} = 6x$$

$$g(x) = 2x - 1$$

① Find h(-2) $x = -2$

$$h(x) = 3(x-3)^2 + 4$$

$$h(-2) = 3(-2-3)^2 + 4$$

$$h(-2) = 3(-5)^2 + 4$$

$$h(-2) = 3(25) + 4$$

$$h(-2) = 75 + 4$$

$$h(-2) = \underline{79} \quad b)$$

$$(-2, \underline{79})$$

x y

④ i(x) = 18 $y = 18$

$$\underline{i(x)} = 6x$$

$$\frac{18}{6} = \frac{6x}{6}$$

$$\underline{3} = x \quad b)$$

$$(\underline{3}, \underline{18})$$

x y

$$\textcircled{5} \quad h(x) = 151$$

$$h(x) = 3(x-3)^2 + 4$$

$$151 = 3(x-3)^2 + 4$$

$$151 - 4 = 3(x-3)^2$$

$$\frac{147}{3} = \frac{3(x-3)^2}{3}$$

$$\sqrt{49} = \sqrt{(x-3)^2}$$

$$7 = x - 3$$

$$7 + 3 = x$$

$$10 = x \quad \text{a)}$$

Answers:

① b)

② a)

③ c)

④ b)

⑤ a)

⑥ d)

⑦ c)

⑧ a)

① $f(6) = 103$

② $g(6) - i(4) = -13$

③ $x = 9$

a) Non Function

D: $\{x \mid x \geq 6, x \in \mathbb{R}\}$

R: $\{y \mid y \leq 4, y \in \mathbb{R}\}$

b) Function

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

R: $\{y \mid y \geq -4, y \in \mathbb{R}\}$

