

(1) If $h(x) = x + 1$, calculate:

(a) $h(-7)$

$$h(x) = x + 1$$

$$h(-7) = -7 + 1$$

$$h(-7) = -6$$

$$\therefore (-7; -6)$$

(b) $h(0)$

$$h(x) = x + 1$$

$$h(0) = 0 + 1$$

$$h(0) = 1$$

$$\therefore (0; 1)$$

(c) $h(p)$

$$h(x) = x + 1$$

$$h(p) = p + 1$$

$$h(p) = p + 1$$

$$\therefore (p; p + 1)$$

(2) $f(x) = 5 - 2x$

Calculate: (a) $f(-1)$

(b) $f(\frac{1}{2})$

(c) $f(0)$

(d) $f(k)$

(e) x if $f(x) = -3$

(a) $f(x) = 5 - 2x$

$$f(-1) = 5 - 2(-1)$$

$$f(-1) = 5 + 2 = 7$$

$$\therefore (-1; 7)$$

(b) $f(x) = 5 - 2x$

$$f(\frac{1}{2}) = 5 - 2(\frac{1}{2})$$

$$f(\frac{1}{2}) = 5 - 1 = 4$$

$$\therefore (\frac{1}{2}; 4)$$

(c) $f(x) = 5 - 2x$

$$f(0) = 5 - 2(0)$$

$$f(0) = 5 - 0 = 5$$

$$\therefore (0; 5)$$

(d) $f(x) = 5 - 2x$

$$f(k) = 5 - 2(k)$$

$$f(k) = 5 - 2k$$

$$\therefore (k; 5 - 2k)$$

(e) $f(x) = 5 - 2x$

$$-3 = 5 - 2x$$

$$2x = 5 + 3$$

$$2x = 8$$

$$\therefore x = 4$$

$$\therefore (4; -3)$$

$$(3) g = \{(x; y) : y = 2(x - 3)\} \Rightarrow g(x) = 2(x - 3)$$

Calculate: (a) $g(5)$

(b) $g(0,5)$

(c) $g(0)$

(d) $g(m+1)$

(e) x if $g(x) = 2$

$$(a) g(x) = 2(x - 3)$$

$$g(5) = 2(5 - 3)$$

$$g(5) = 2(2)$$

$$g(5) = 4$$

$$\therefore (5; 4)$$

$$(b) g(x) = 2(x - 3)$$

$$g(0,5) = 2(0,5 - 3)$$

$$g(0,5) = 2(-2,5)$$

$$g(0,5) = -5$$

$$\therefore (0,5; -5)$$

$$(c) g(x) = 2(x - 3)$$

$$g(0) = 2(0 - 3)$$

$$g(0) = 2(-3)$$

$$g(0) = -6$$

$$\therefore (0; -6)$$

$$(d) g(x) = 2(x - 3)$$

$$g(m+1) = 2(m+1 - 3)$$

$$g(m+1) = 2(m - 2)$$

$$g(m+1) = 2m - 4$$

$$\therefore (m+1; 2m - 4)$$

$$(e) g(x) = 2(x - 3)$$

$$2 = 2x - 6$$

$$2 + 6 = 2x$$

$$\therefore 2x = 8$$

$$x = 4$$

$$\therefore (4; 2)$$