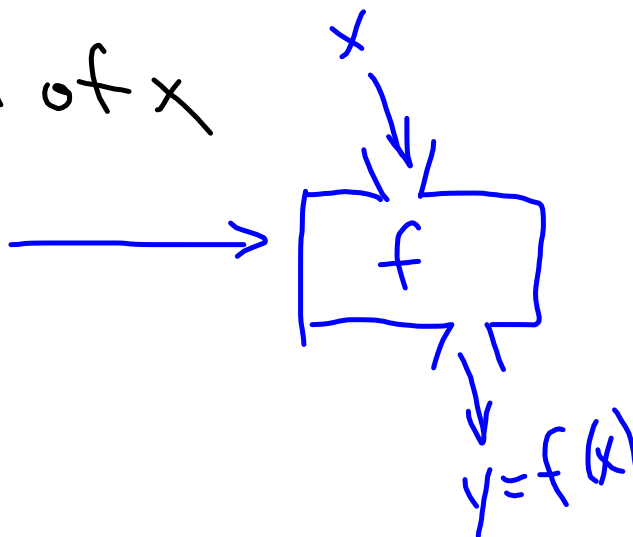


$$y = 2x + 1$$

y is a function of x

$$f(x) = 2x + 1$$

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



Find $g(5)$.

$$g(5) = 5^2 - 3(5) = 10$$

Find all values of x
such that $g(x) = 10$.

$$10 = x^2 - 3x$$

$$0 = x^2 - 3x - 10$$

$$0 = \underline{(x-5)} \underline{(x+2)}$$

$$x = -2, 5$$

$$x^2 - 2x - 24$$
$$(x - 6)(x + 4)$$

$-6x$

$+4x$

~~FOIL~~
FLIO

Solve

$$2x^2 - 7x - 4 = 0$$

$$(2x + 1)(x - 4) = 0$$

$$2x + 1 = 0 \quad x = 4$$

$$2x = -1$$

$$x = -\frac{1}{2}$$

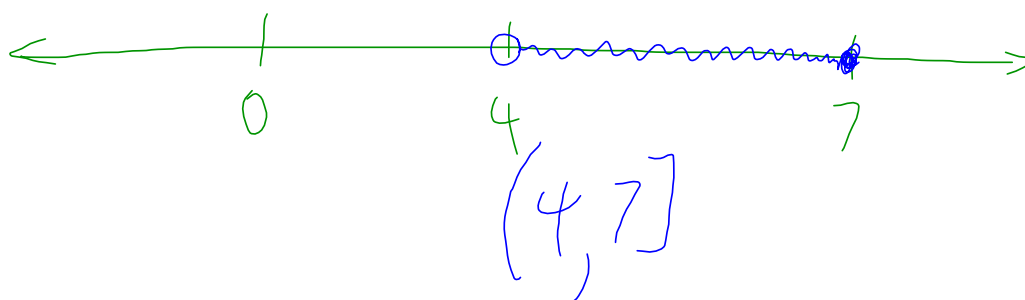
$$g(x) = x^2 - 3x \implies g(w) = w^2 - 3w$$
$$g(\square) = \square^2 - 3\square$$

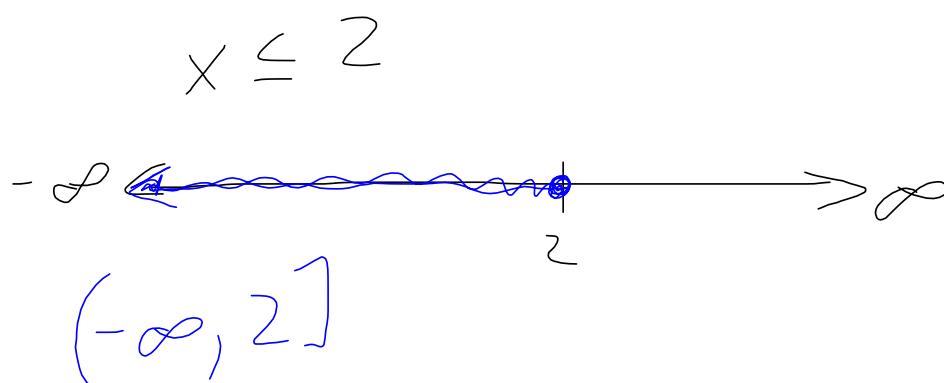
Find $g(x+h) = (x+h)^2 - 3(x+h)$

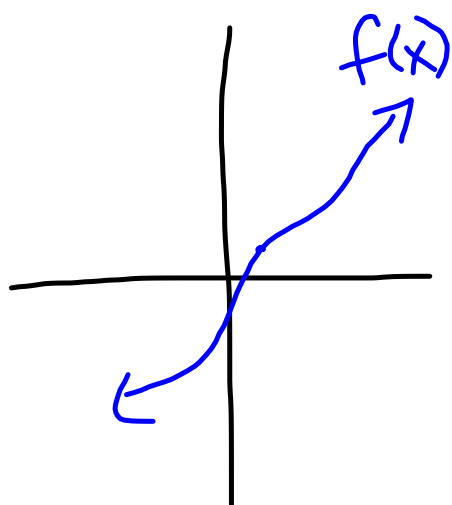
$$= (x+h)(x+h) - 3x - 3h$$
$$= x^2 + 2xh + h^2 - 3x - 3h$$

All numbers between 4 and 7,
including 7 but
not 4.

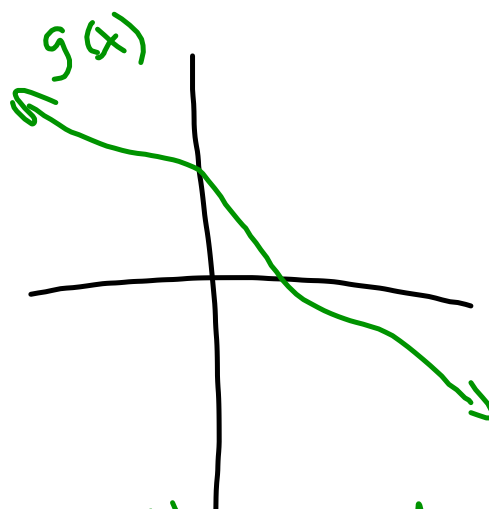
$$4 < x \leq 7$$







$f(x)$ is an increasing function



$g(x)$ is a decreasing function