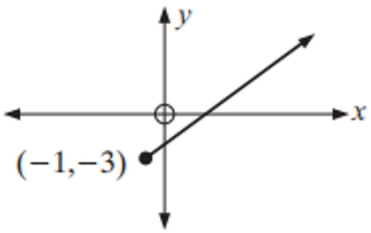
Domain and Range

For example:

(1)

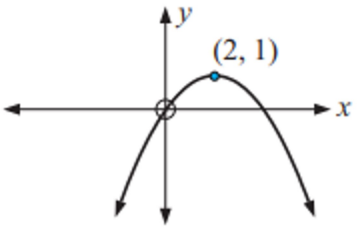


All values of $x \geqslant -1$ are permissible.

So, the domain is $\{x:\ x \geqslant -1\}$.

All values of $y \geqslant -3$ are permissible.

So, the range is $\{y:\ y \geqslant -3\}$.



x can take any value.

So, the domain is $\{x:\ x \text{ is in } \mathcal{R}\}$.

y cannot be > 1

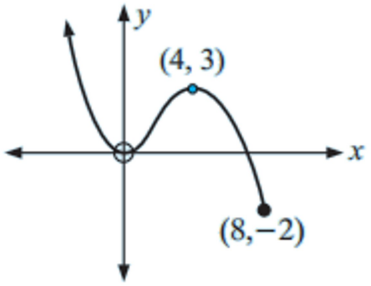
$\therefore$ range is $\{y:\ y \leqslant 1\}$.

Practice Questions

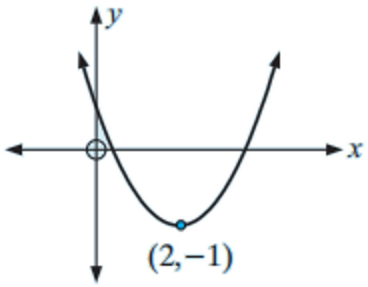
1.

Find the domain and Range of the following functions:

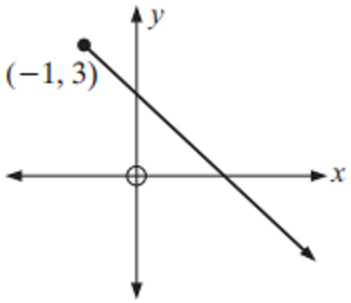
A)



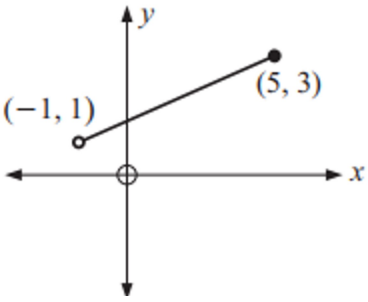
B)



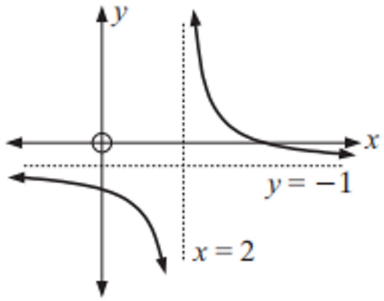
C)



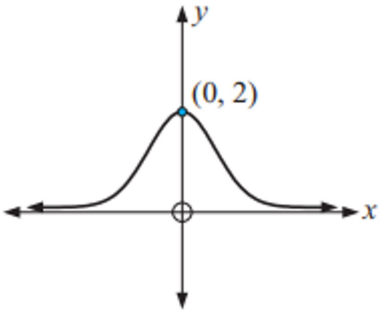
D)



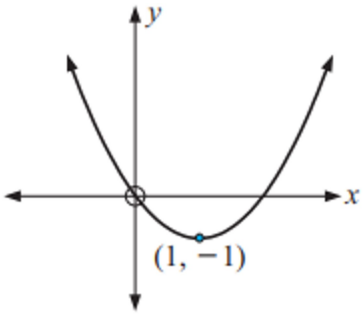

E)



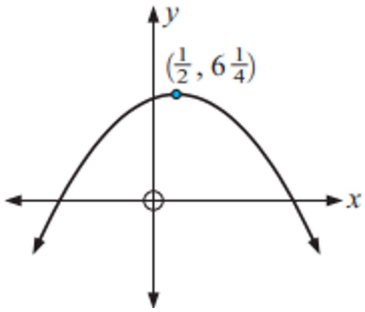
F)



G)



H)



2. Find the domain and Range of the following functions.

A) $f(x) = \sqrt{x}$

B) $f(x) = \dfrac{1}{x^2}$

C) $f(x) = \sqrt{4 - x}$

D)

$y = 5x - 3x^2$

E)

$$y = \frac{3x - 9}{x^2 - x - 2}$$

F)

$$y = \frac{x + 4}{x - 2}$$

G)

$$y = x^3 - 3x^2 - 9x + 10$$

H)

$$y = x^2 + x^{-2}$$

I) $$y = x^3 + \frac{1}{x^3}$$

J)

$$y = x^4 + 4x^3 - 16x + 3$$