data

S T Q Q S S D

① $f(x) = \frac{x^2-4}{x-1}$

a) $f(0) = \frac{-4}{-1} = 4$

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

$f(-2) = \frac{0}{-3}$

c) $f(x-2) = \frac{x^2-4}{x-1}$

$\frac{x^2-4x+4-4}{x-2-1}$

$f(x-2) = \frac{x^2-4x}{x-3}$

② a) $y = x^2$ $D = \mathbb{R}$

b) $y = \sqrt{4-x^2}$

$D = \{x \in \mathbb{R} / 2 \geq x \geq -2\}$

$[-2, 2]$

c) $y = \frac{1}{x-4}$ $x-4 \neq 0$

$D = \mathbb{R} - \{4\}$

d) $y = \sqrt{x-2} \geq 0$

$D = \mathbb{R}^+ - \{0, 7\}$

e)

e) $y = \sqrt{x^2-4x+3}$

$x^2-4x+3 \geq 0$

$\frac{4 \pm \sqrt{16-12}}{2}$ $\frac{4 \pm 2}{2}$ $x' = 4$ $x = 0$

$D = \{x \in \mathbb{R} / 0 \leq x \geq 4\}$

f) $y = \sqrt{3+x}_{\geq 0} + \sqrt{7-x}_{\geq 0}$

$x+3 \geq 0$ $-x+7 \geq 0$ $D = \{x \in \mathbb{R} / -3$

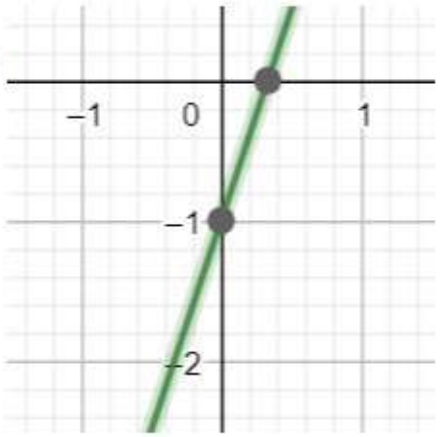
$x \geq -3$ $x \leq 7$

-3 7

③

28
14
7

A)

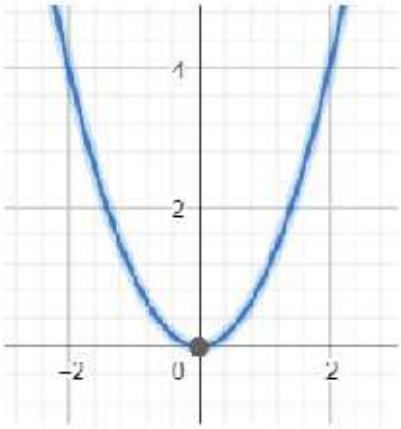


$f(x) = 3x - 1$

$D = R$

$I = R$

B)

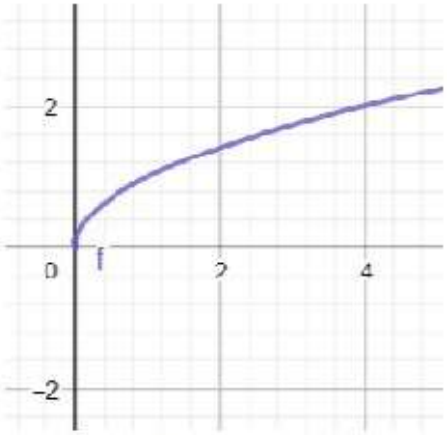


$f(x) = x^2$

$D = R$

$I = R$

C)

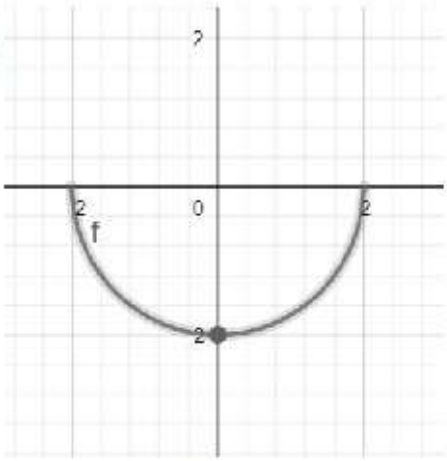


$f(x) = \sqrt{x}$

$D = [0,+\infty[$

$I = [0,+\infty[$

D)

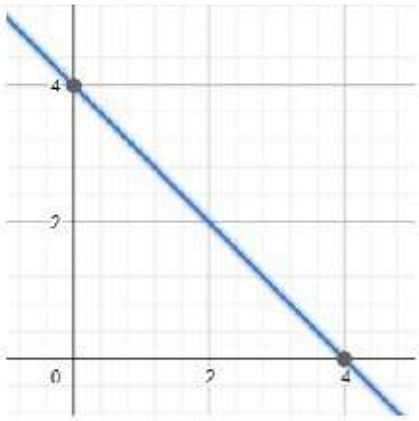


$f(x) = -\sqrt{4 - x^2}$

$D = [-2,2]$

$I = [0,-2]$

E)



$f(x) = -x + 4$

$D = R$

$I = R$

data

④ $f(x) = x^2 + 8x + 14$

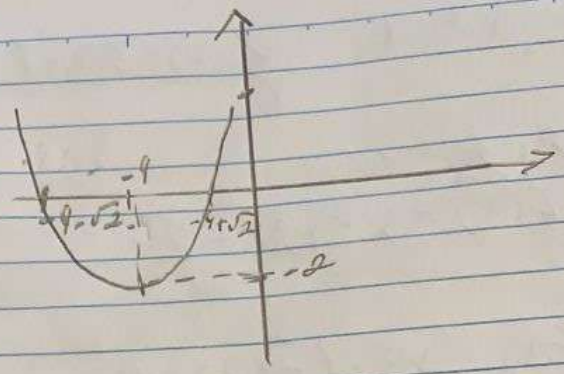
$x = \frac{-8 \pm \sqrt{64 - 56}}{2}$

$x = \frac{-8 \pm \sqrt{8}}{2}$

$x = -4 \pm \sqrt{2}$

$x' = -4 + \sqrt{2}$

$x'' = -4 - \sqrt{2}$



$V = \left(\frac{-b}{2a}, \frac{-\Delta}{4a}\right)$

$V = \left(\frac{-8}{2}, \frac{-8}{4}\right)$

$V = (-4, -2)$

$D = \mathbb{R}$

$I = \{x \in \mathbb{R} / x \geq -2\}$

b) $f(x) = -x^2 + 4x - 1$

$x = \frac{-4 \pm \sqrt{+16 - 4}}{-2}$

$x = \frac{-4 \pm \sqrt{12}}{-2}$ $+2\sqrt{3}$

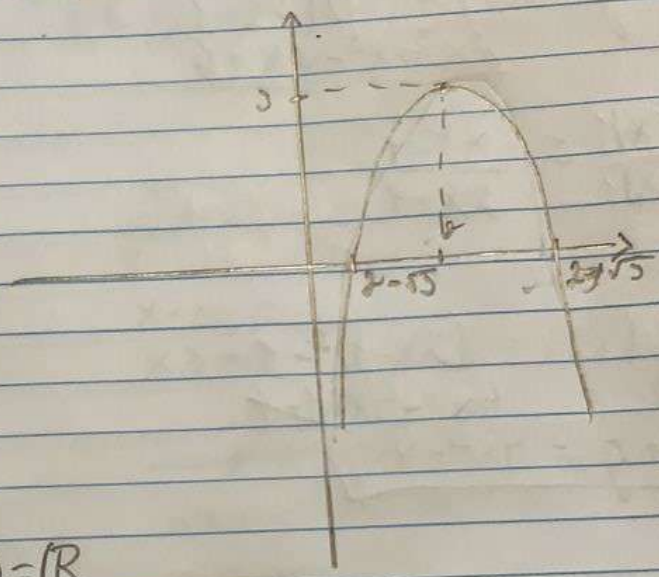
$x' = 2 + \sqrt{3}$

$x'' = 2 - \sqrt{3}$

$V = \left(\frac{-b}{2a}, \frac{-\Delta}{4a}\right)$

$V = \left(\frac{-4}{-2}, \frac{-12}{-4}\right)$

$V = (+2, +3)$



$D = \mathbb{R}$

$I = \{x \in \mathbb{R} / x \leq 3\}$

(5) $f(x) = x^2 - 1$ $\quad g(x) = 2x - 1$

a) $x^2 - 1 + 2x - 1$

$f(x) + g(x) = x^2 + 2x - 2$

b) $f(x) - g(x) = x^2 - 1 - (2x - 1)$

$x^2 - 1 - 2x + 1$

$x^2 - 2x$

c) $f(x) \cdot g(x) = (x^2 - 1)(2x - 1)$

$2x^3 - x^2 - 2x + 1$

d) $\frac{f(x)}{g(x)} = \frac{x^2 - 1}{2x - 1}$

e) $f(g(x)) = (2x - 1)^2 - 1$

$4x^2 - 4x + 1 - 1$

$f \circ g = 4x^2 - 4x$

f) $g \circ f = 2(x^2 - 1) - 1$

$2x^2 - 2 - 1$

$g \circ f = 2x^2 - 3$