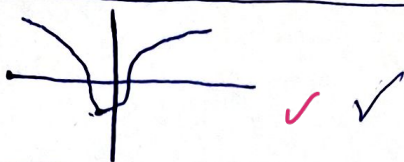


الف: $Y = \sqrt[3]{2x^2 + 2x - 1}$



ب: $x = \frac{\pi}{p} \quad \frac{\pi}{p} \cos y = 0$

$y = \frac{\pi}{p}, \frac{3\pi}{p}$ ✓ تابع (۲)

ج: $x + y = \sqrt{2xy} \quad x^2 + y^2 - 2xy = 0$ ✗

$x^2 + y^2 + 2xy = 2xy \quad (x - y)^2 = 0$ ✓ $x = y$ ✓

د: $y^2(x - y) + 2(x - y) = 0$

$(x - y)(y^2 + 2) = 0$

$x - y = 0 \quad x = y$ ✗ ✓

الف: $x^2 = 2y - |y|$

if $y = + \rightarrow x^2 = y$ ✓ تابع (۲)

if $y = - \rightarrow x^2 = 3y$ ✗

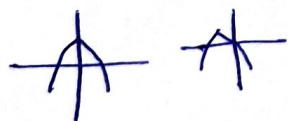
$x = 0 \rightarrow \begin{cases} y = 1, 1 \\ y = 1, 2 \\ y = 1, 3 \end{cases}$ ✓ تابع (۲)

$x = 3 \rightarrow 2x^2 - b \rightarrow 18 - b$

$a + 2x \rightarrow a + 6$

$a + 6 = 18 - b$

$a + b = 12$ ✓ (۲)



a, b

$a - ab - a^2 = 0$

$a - b^2 - b^2 = 0$

$a = 2b^2$

$b = 0$ ✗

$b = \frac{1}{2}$ ✗

$b = -1$ ✓

$2b^2 - 2b^2 - 4b^2 = 0$

$-4b^2(4b^2 + 2b - 2) = 0$

$-b^2(2b + 2)(2b - 1) = 0$

$a = 2b^2 = 2$ ✓

$a + b = -1 + 2 = 1$ ✓ (۲)

$a = 0$ ✓

$Y = bx + c$

$0 = 2b + c$

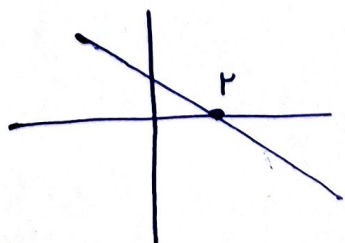
$c = -2b$ ✓

$3a + c - 3|b|$

$c - 3|b|$

$c + 3b$

$3b - 2b = b$ ✓ (۲)



$$\frac{rx+r}{x+b} + d \geq 0$$

$$\frac{rx+r+dx+ab}{x+b} \geq 0$$

$$\frac{r(r+d)+r+ab}{x+b} \geq 0$$

(r)

$$D_f = (r, +\infty)$$

↓
نقطة خارج

$$r+b=0$$

$$b=-r \checkmark$$

الف: $x^3 - x \geq 0$

$$x(x^2-1) \geq 0$$

$$x(x+1)(x-1) \geq 0$$

$$\frac{-1}{-x} + \frac{0}{x} - \frac{1}{x} +$$

(r)

$$D_f = [-1, 0] \cup [1, +\infty) \checkmark$$

$$\therefore |x|-1 > 0 \quad |x| > 1 \quad x > 1 \quad x < -1$$

$$D_f = (-\infty, -1) \cup (1, +\infty) \checkmark$$

الف: $|x| - [x] \neq 0$

$$|x| \neq [x]$$

$$D_f = \mathbb{R} - (\underbrace{z^+ \cup \{0\}}_{\text{w}}) \checkmark$$

(r)

$$\therefore x \geq 0$$

$$y \geq 0$$

$$D_f = [0, 1] \checkmark$$

$$\left[rx - \frac{1}{r}\right] + \left[rx + \frac{r}{r}\right] > 0 + r$$

$$r\left[rx + \frac{r}{r}\right] > r$$

(r)

$$\left[rx + \frac{r}{r}\right] > 1$$

$$rx + \frac{r}{r} \geq 1$$

$$rx \geq \frac{1}{r}$$

$$x \geq \frac{1}{r}$$

$$D_f = \left[\frac{1}{r}, +\infty\right) \checkmark$$

$$rx - a > 0$$

$$1 - \log rx - a \geq 0$$

$$1 \geq \log rx - a$$

$$10 \geq rx - a$$

$$0 < rx - a \leq 10$$

$$rx - a = 0 \quad rx = a$$

$$rx - a = 10$$

$$rx - rb = 10$$

$$c - b = 10 \checkmark$$

(r)