

الف) $(3, 2)$ و $(m, 2) \Rightarrow m = 3$

$(3, n^2 - n)$ و $(3, 2) \Rightarrow n^2 - n = 2 \Rightarrow n^2 - n - 2 = 0$

$(n - 2)(n + 1) \xrightarrow{2} -1 \times 2 \Rightarrow (-1, 2)$ متقابل با

$n = 2 \quad m = 3$

ب) $(2, 3)$ و $(m, 3) \Rightarrow m = 2$

$\Rightarrow (a, 1)$ و $(-1, 1) \Rightarrow a = -1$

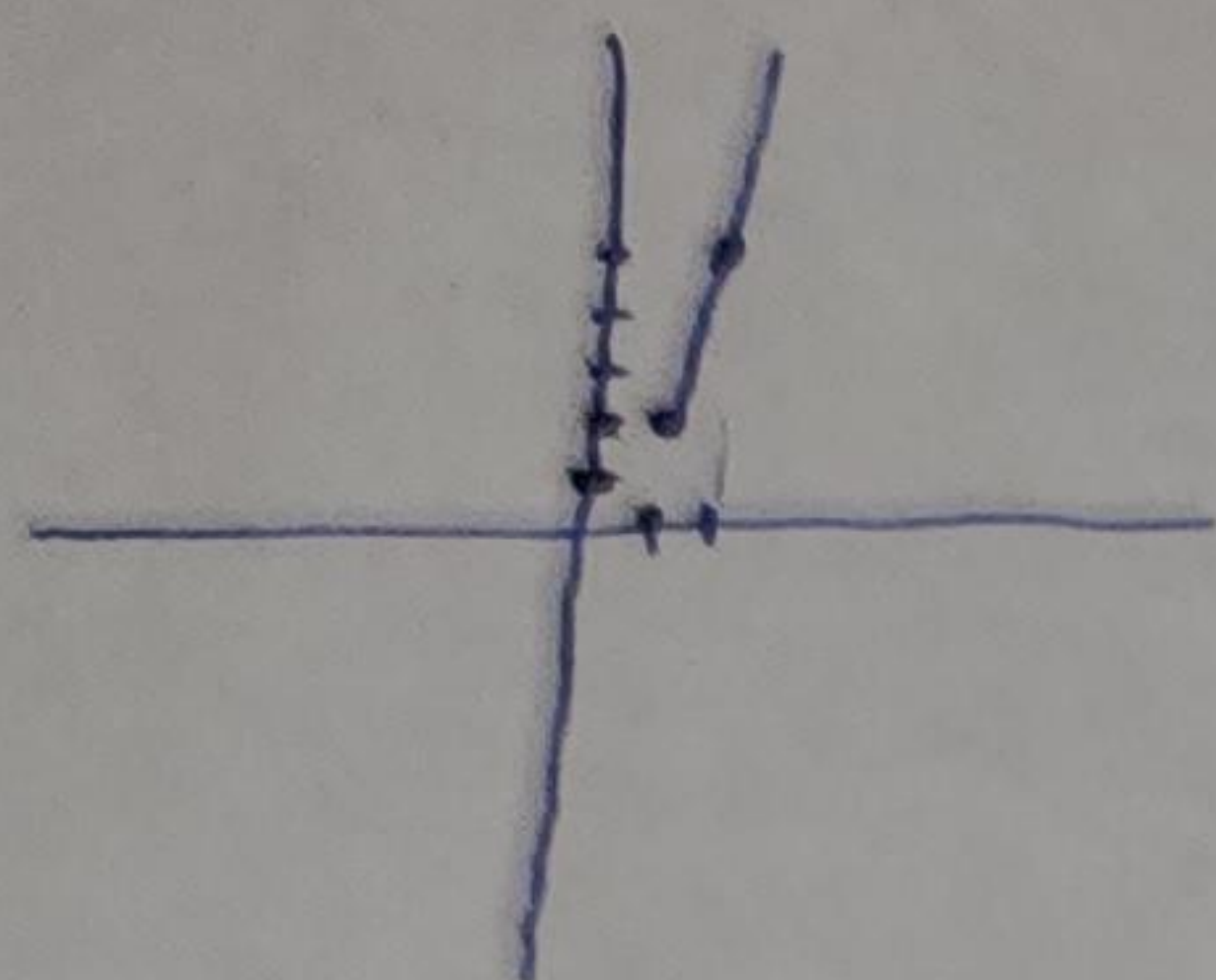
$\Rightarrow (1, n)$ و $(1, 2) \Rightarrow n = 2$

$m = 2$ و $n = 2$

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$\max(x + a) \leq 2 \text{ if } x < 1$

$x + a \leq 2 \xrightarrow{x < 1} 1 + a \leq 2 \quad a \leq 1 \quad (-\infty, 1]$

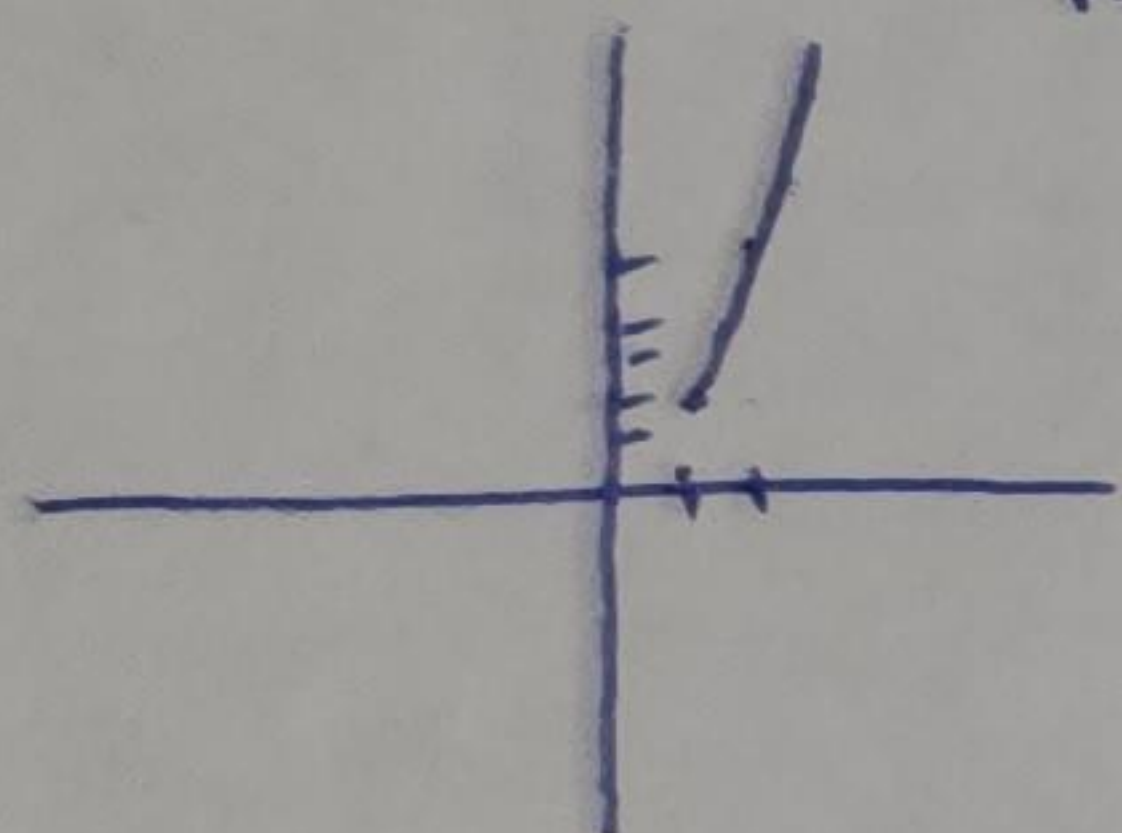


حداکثرات برای a حاجی است که با ۲ توکل مشترک باشد که آن حالت با $a = 1$ برابری و تمام موارد کوپلتر است

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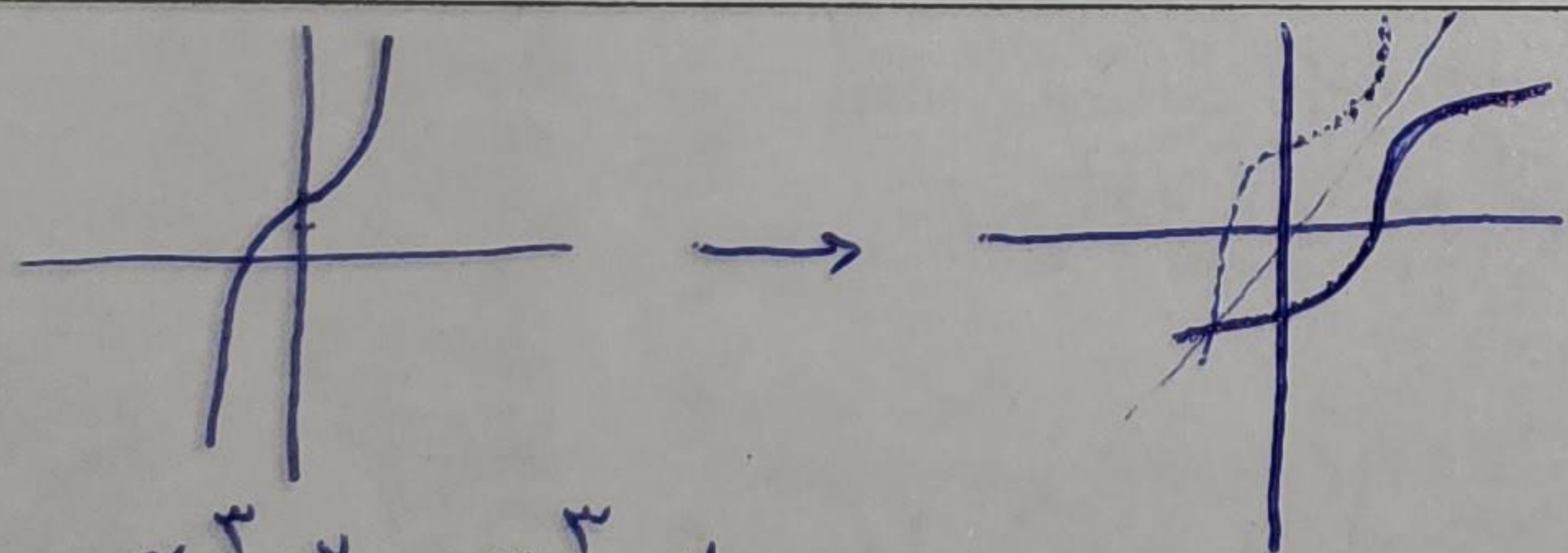
$\max(x \leq 0) \Rightarrow ax + a - 1 < 2 \Rightarrow ax + a < 3$

$\max \xrightarrow{\text{if } x=0} \left. \begin{array}{l} a < 3 \\ a \neq 0 \quad a > 0 \end{array} \right\} a = (0, 3)$



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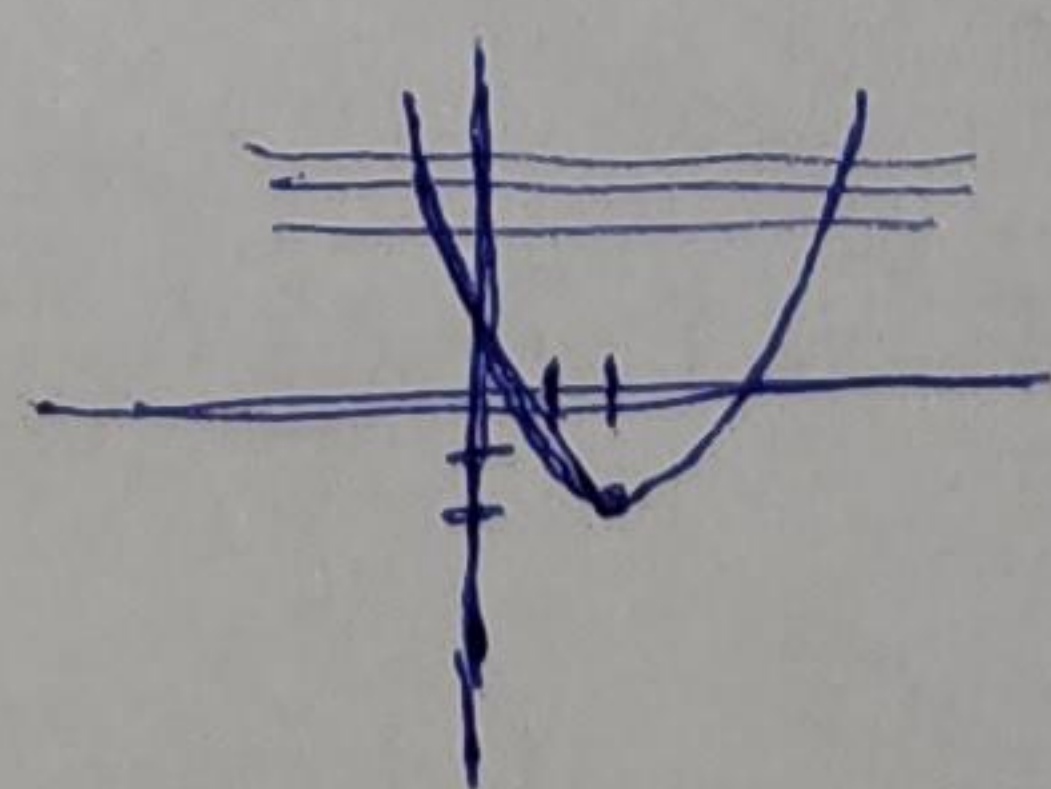
الف)



$y_1 = y_2 \Rightarrow x^3 + 2 = x^3 + 2 \Rightarrow x_1 = x_2$

$x^3 = y - 2 \Rightarrow x = \sqrt[3]{y - 2} \Rightarrow y = \sqrt[3]{x - 2} \downarrow (f^{-1})$

ب) $\frac{-b}{2a} = 2 \Rightarrow y = -2$



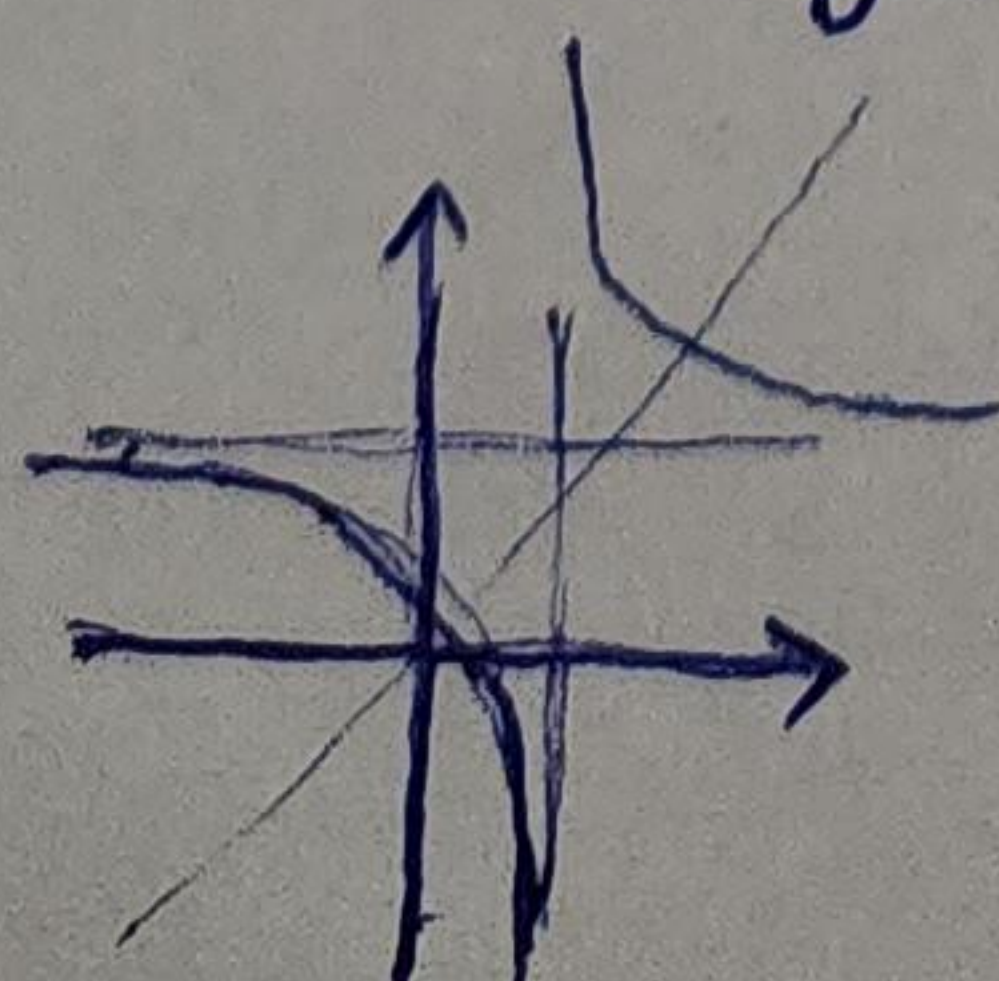
۲ بر فرد
با حفظ افقی
در این
نیت

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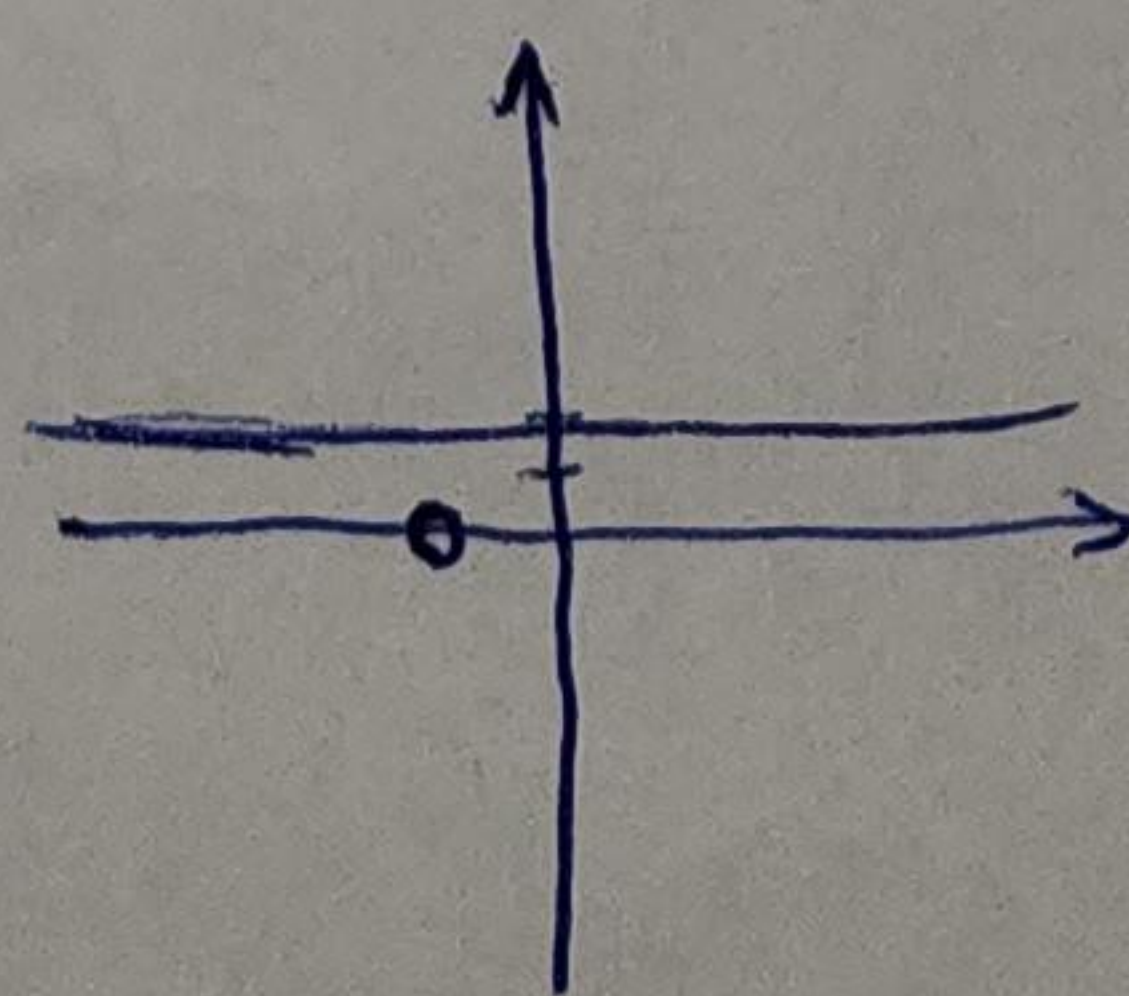
الف) $3x + 1 = yx - 2y \Rightarrow 2y + 1 = yx - 3x$

$x(y - 3) = 2y + 1 \Rightarrow x = \frac{2y + 1}{y - 3}$

$y = \frac{2x + 1}{x - 3}$



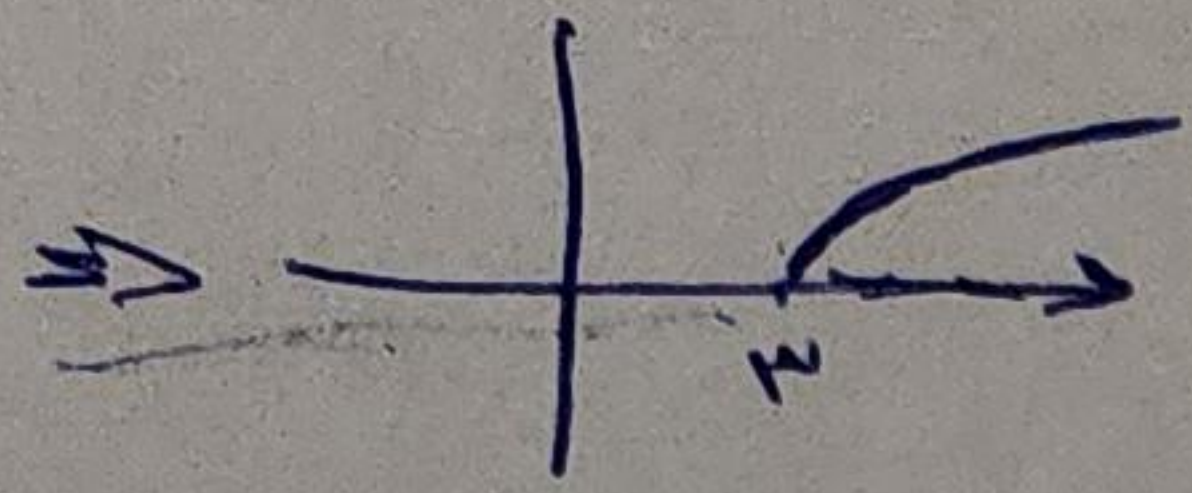
ب) $\frac{2x + 1}{x + 2} = 2$



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در س
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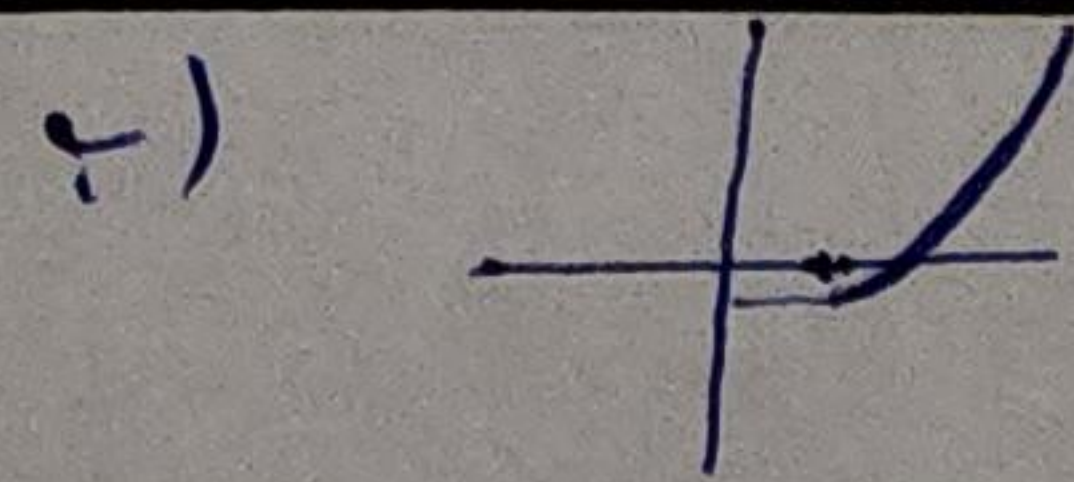
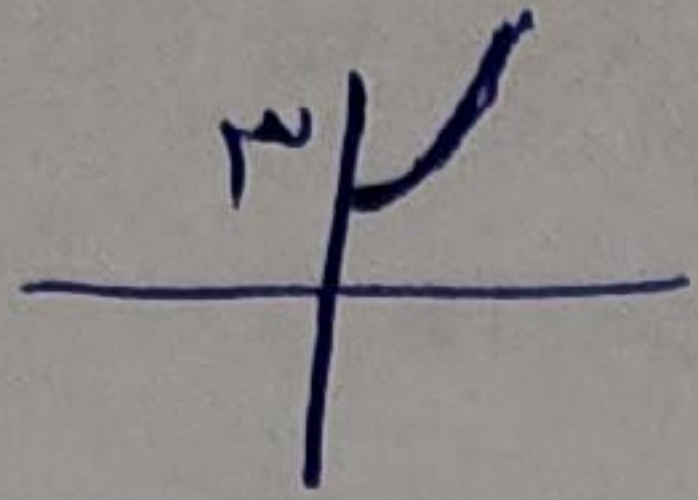
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$$\text{الف) } y = \sqrt{x} \Rightarrow \text{graph} \Rightarrow y = \sqrt{x-3}$$



$$x = \sqrt{y-3}$$

$$x^2 = y-3 \Rightarrow y = x^2+3 \quad (x \geq 0 \text{ فقط})$$



$$y = (x-2)^2 - 1 \Rightarrow \pm \sqrt{y+1} = x-2$$

$$x = 2 \pm \sqrt{y+1} \Rightarrow f^{-1} = 2 \pm \sqrt{y+1}$$

$$\text{المجال } [2+\infty) \Rightarrow \text{نقطة واحدة } \boxed{y = 2 + \sqrt{x+1}}$$

$$g_1 = g_2 \Rightarrow \frac{x_1^2}{x_1^2-2} = \frac{x_2^2}{x_2^2-2} \Rightarrow x_1^2 x_2^2 - 2x_1^2 = x_1^2 x_2^2 - 2x_2^2 \Rightarrow x_1^2 = x_2^2 \Rightarrow x_1 = \pm x_2$$

$$y = \frac{x}{\sqrt{x^2-2}} \Rightarrow x = \frac{y}{\sqrt{y^2-2}} \xrightarrow{\text{تربيع}} x^2 = \frac{y^2}{y^2-2} \Rightarrow y^2 x^2 - 2x^2 = y^2 \Rightarrow y^2 x^2 - y^2 = 2x^2$$

$$y^2 = \frac{2x^2}{x^2-1} \rightarrow y = \pm \sqrt{\frac{2x^2}{x^2-1}}$$

$$y = x + \sqrt{x} \quad \sqrt{x} = t \Rightarrow y = t^2 + t \quad t^2 + t - y = 0 \quad \Delta = b^2 - 4ac = 1 + 4y$$

$$\frac{-1 \pm \sqrt{1+4y}}{2} = t$$

$$x = 1 + \frac{1}{2}y + \frac{1}{2}\sqrt{1+4y}$$

$$y = \frac{2}{3}x + \frac{1}{2} + \frac{1}{2}\sqrt{1+\frac{4}{3}x}$$

$$a + 2b + c$$

$$1 + 1 - 1 = 1$$

$$\frac{ax+b-\sqrt{x-c}}{a=1 \quad b=\frac{1}{2} \quad c=-\frac{1}{4}}$$

$$y = \frac{x}{1-|x|}$$

$$f(x) = \frac{x}{1-|x|}$$

$$\frac{-\frac{y}{\omega}}{1-\frac{y}{\omega}} = \frac{-y}{\omega}$$

$$x = \frac{y}{1+|y|}$$

$$y = \sqrt{x} - 1$$

$$g^{-1}(x) = (x+1)^2$$

$$\left(\frac{-y}{\omega} + 1\right)^2 = \frac{1}{4\omega}$$

$$x + x|y| = y \quad x = y - x|y|$$

$$\frac{1}{4\omega} - \frac{y}{\omega} = \frac{y^2 - \omega}{4\omega} = \frac{-y^2}{4\omega}$$

$$x = y(1-|x|)$$

$$y = (x+1)^2$$

$$f^{-1} = \sqrt[3]{x-1} \Rightarrow f = y = \sqrt[3]{x-1} \Rightarrow x = \sqrt[3]{y-1} \Rightarrow x^3 = y-1 \quad y = f(x) = x^3+1$$

$$12 = x^3 + 1 + \sqrt{x^3+1} \Rightarrow \text{if } x=2 \Rightarrow 9 + \sqrt{9} = 12 \quad g^{-1}(12) = 2$$

$$(2 \ 12) \rightarrow (12 \ 2)$$