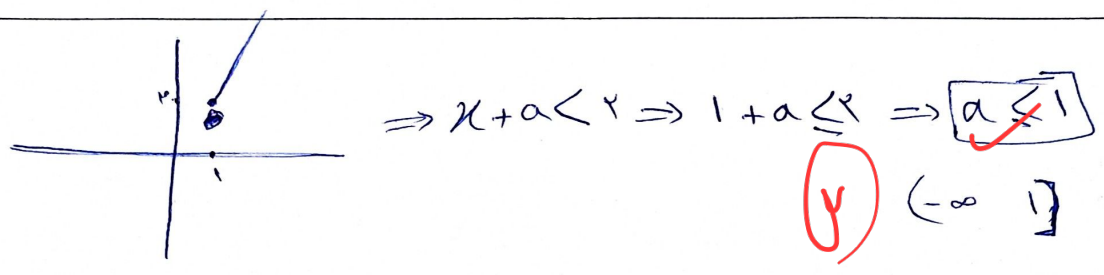


19, 25

نام و نام خانوادگی (ایلیا) پاسخنامه تشریحی تکلیف شماره ۱۵ کلاس A

الف) $(2, 2), (m, 2) \Rightarrow m=2 \quad n^2 - n = 2 \Rightarrow n^2 - n - 2 = 0$
 $\Rightarrow n = \frac{-1 \pm \sqrt{1+8}}{2} \Rightarrow n = 2$ ✓
 ب) $m=2 \rightarrow (a, 2-1) \Rightarrow a=-1 \Rightarrow (-1+2, n) \Rightarrow n=2$ ✓
 (2)



~~$ax + a - 1 < 2$~~ $x=0 \Rightarrow a-1 < 2 \Rightarrow a < 3$ ✓
 ~~$a > 0$~~ $a < 3 \Rightarrow 0 < a < 3$ (0, 3)

الف) $y_1 = y_2 \Rightarrow x_1^2 + 2 = x_2^2 + 2 \Rightarrow x_1 = x_2$
 $x^2 = y - 2 \Rightarrow x = \sqrt{y-2} \Rightarrow y = x^2 + 2$ ✓
 ب) $-\frac{6}{2a} = 2 \rightarrow y_{min} = -2$

یک به یک نیست ✓ (2)

الف) $3x+1 = yx-2y \Rightarrow 2y+1 = yx-3x$
 $x(y-3) = 2y+1 \Rightarrow x = \frac{2y+1}{y-3}$
 $\rightarrow y = \frac{2x+1}{x-3}$ ✓
 یک به یک نیست
 ب) $y = \frac{2x+1}{x-3} = 2$

یک به یک نیست ✓ (2)

$y = \sqrt{x-3}$ $x = \sqrt{y-3} \Rightarrow x^2 = y-3 \Rightarrow y = x^2 + 3$ $x \geq 0$	$\frac{-b}{2a} = 2 \quad y = -1$ $y = (x-2)^2 - 1 \Rightarrow x-2 = \pm \sqrt{y+1}$ $x = 2 \pm \sqrt{y+1} \Rightarrow y = 2 \pm \sqrt{x+1}$ $\left[\begin{matrix} 2 \\ 2+\infty \end{matrix} \right) \Rightarrow y \geq 2 + \sqrt{x+1}$
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$x + \sqrt{x} \xrightarrow{x=t} y = t^2 + t \Rightarrow t^2 + t - y = 0 \xrightarrow{\Delta} 1 + 4y$
 $t = \frac{-1 \pm \sqrt{1+4y}}{2}$
 $x = t^2 = \frac{1 + 1 + 4y - 2\sqrt{1+4y}}{2} = y + \frac{\sqrt{1+4y}}{2}$ (2)
 $y = x + \frac{\sqrt{1+4y}}{2} + \frac{1}{2} \xrightarrow{a=1, b=\frac{1}{2}, c=\frac{1}{2}} \begin{cases} a=1 \\ b=\frac{1}{2} \\ c=\frac{1}{2} \end{cases} \Rightarrow a+2b+c = 1+1-1=1$

$y_1 = y_2 \Rightarrow \frac{x_1^2}{x_1^2-2} = \frac{x_2^2}{x_2^2-2} \Rightarrow x_1^2 x_2^2 - 2x_1^2 = x_1^2 x_2^2 - 2x_2^2$
 $\Rightarrow x_1^2 = x_2^2 \Rightarrow x_1 = \pm x_2 \rightarrow$ یک و خفی تواند در a قرینه داشته باشد
 $y = \frac{x}{\sqrt{x^2-2}} \rightarrow x = \frac{y}{\sqrt{y^2-2}} \rightarrow x^2 = \frac{y^2}{y^2-2}$
 $y x^2 - 2x^2 = y^2 \Rightarrow y^2 x^2 - y^2 = 2x^2 \Rightarrow y^2 = \frac{2x^2}{x^2-1} \rightarrow y = \pm \frac{\sqrt{2}x}{\sqrt{x^2-1}}$

$x + x|y| = y \Rightarrow x = y(1 - |x|) \Rightarrow y = \frac{x}{1 - |x|} = \frac{-2}{1 - \frac{x}{0}} = \frac{-2}{1 - \frac{x}{0}} = \frac{-2}{\frac{0-x}{0}} = \frac{-2}{-\frac{x}{0}} = \frac{2}{\frac{x}{0}}$
 $y = \sqrt{x-1} \rightarrow x = \sqrt{y-1} \Rightarrow y = (x+1)^2$
 $\rightarrow \left(-\frac{2}{0} + 1\right)^2 = \frac{4}{0}$
 $\frac{4}{20} - \frac{2}{4} = \frac{20}{20} - \frac{20}{20} = \frac{-20}{20}$ (2)

$x = \sqrt[3]{y-1} \Rightarrow x^3 = y-1 \Rightarrow y = x^3 + 1$
 $12 = x^3 + 1 + \sqrt{x^3+1} \xrightarrow{x=2} 9 + \sqrt{9} = 12$ (2)
 $(2, 12) \rightarrow (12, 2)$