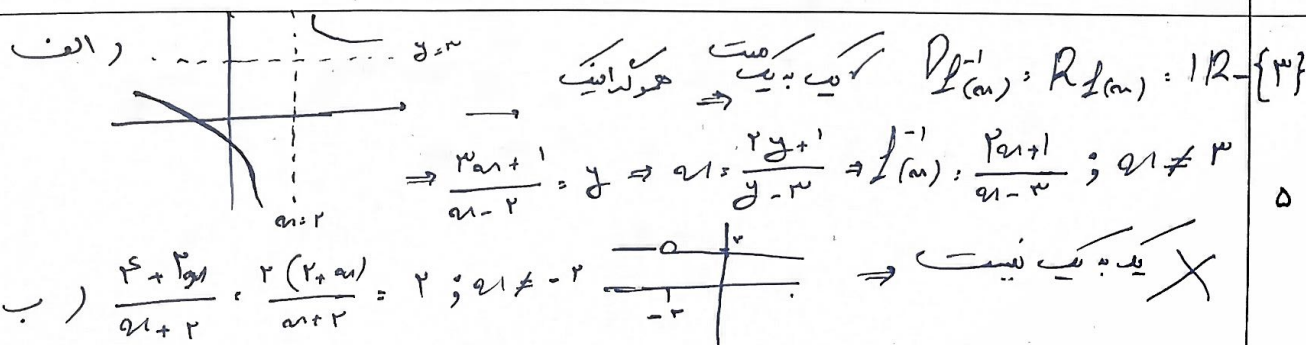
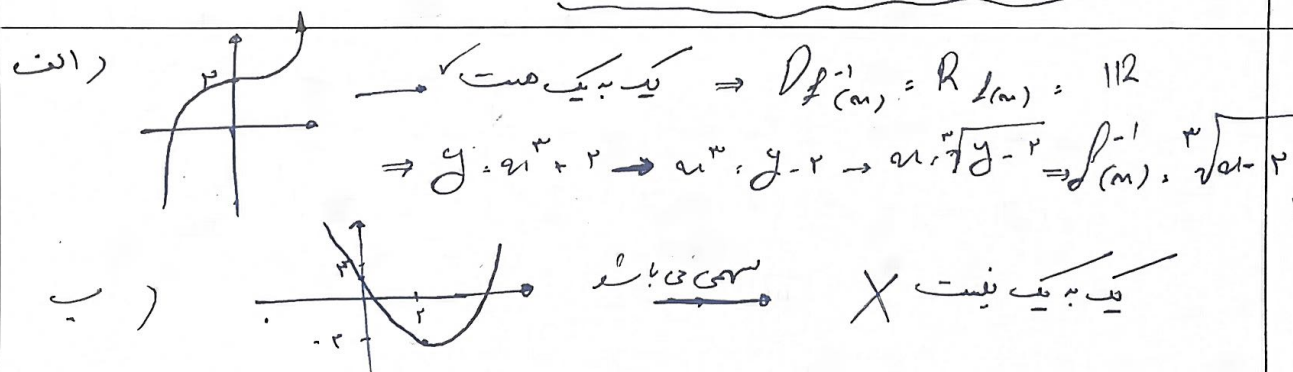
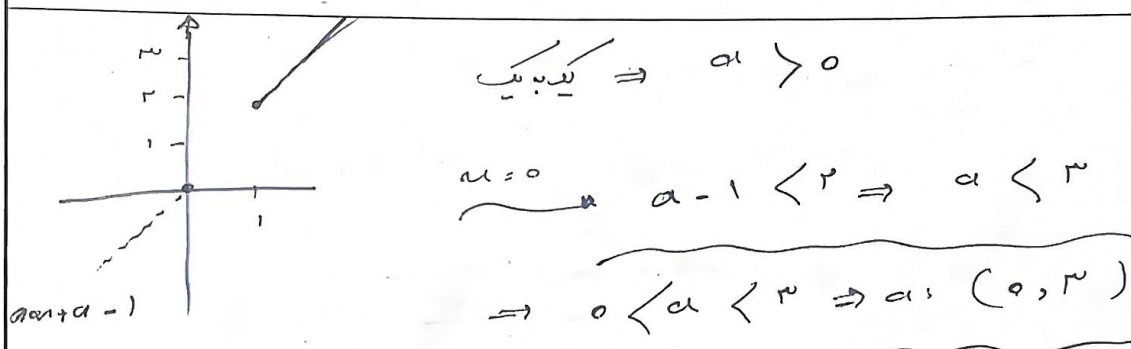
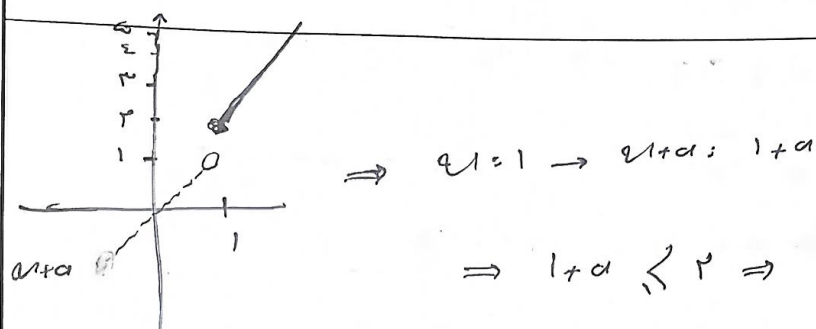
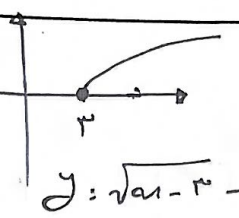
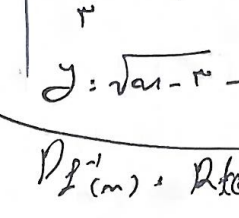


الف) $(3, 2) = (m, 2) \Rightarrow m = 3$ $(3, 2), (3, n^2 - n)$
 $\Rightarrow n^2 - n = 2 \Rightarrow n^2 - n - 2 = 0 \Rightarrow n < 2 \checkmark \Rightarrow n = 2$
 ب) $(2, 3), (m, 3) \Rightarrow m = 2$ $(a, m-1), (a, 1) = (-1, 1)$
 $\Rightarrow a = -1 \Rightarrow (a+2, n) = (1, n) = (1, 2) \Rightarrow n = 2$



الف) $y = \sqrt{x-3}$  ب) 	$\sqrt{x-3} \Rightarrow D_f^{-1}(m), R_f(m) : [0, +\infty)$ $y = \sqrt{x-3} \rightarrow y^2 = x-3 \rightarrow x = y^2+3 \rightarrow f^{-1}(m), a_1^2+3 \rightarrow D_f^{-1} : [0, +\infty)$ $D_f^{-1}(m), R_f(m) : [-1, +\infty) \rightarrow y = a_1^2 - 3m + 3$ $\rightarrow y = a_1^2 - 3m + 3 - 1 \Rightarrow y = (a_1-2)^2 - 1 \rightarrow R = \sqrt{y+1} + 2 \rightarrow f^{-1}(m) = \sqrt{a_1+1} + 2 ; [-1, +\infty)$	6
	$y = a_1 + \sqrt{a_1} + \frac{1}{5} - \frac{1}{5} \rightarrow y = (\sqrt{a_1} + \frac{1}{5})^2 - \frac{1}{5} \rightarrow y + \frac{1}{5} = (\sqrt{a_1} + \frac{1}{5})^2$ $\Rightarrow \sqrt{a_1 + \frac{1}{5}} = \sqrt{y + \frac{1}{5}} \Rightarrow \sqrt{a_1} = \sqrt{y + \frac{1}{5}} - \frac{1}{5} \Rightarrow a_1 = (\sqrt{y + \frac{1}{5}} - \frac{1}{5})^2$ $a_1 = y + \frac{1}{5} + \frac{1}{5} - \frac{2\sqrt{y + \frac{1}{5}}}{5} \Rightarrow a_1 = y - \frac{2\sqrt{y + \frac{1}{5}}}{5} + \frac{2}{5} \Rightarrow f^{-1}(m), a_1 = \sqrt{a_1 + \frac{1}{5}} + \frac{1}{5}$ $\Rightarrow a = 1, b = \frac{1}{5}, c = \frac{-1}{5} \Rightarrow a + 2b + 5c = 1 + 1 - 1 = 1$	7
د) $\frac{a_1^2}{a_1^2-2}, \frac{a_1^2}{a_1^2-2} \Rightarrow a_1^2 a_1^2 - 2a_1^2 = a_1^2 a_1^2 - 2a_1^2 \Rightarrow a_1^2 = a_1^2$ $\Rightarrow a_1 = \pm a_1$ تفاوت علامت ندارد $a_1 = a_1 \Rightarrow \sqrt{\frac{2a_1^2}{a_1^2-1}}$ $y = \frac{a_1}{\sqrt{a_1^2-2}} \rightarrow y^2 = \frac{a_1^2}{a_1^2-2} \rightarrow a_1^2 = \frac{y^2}{y^2-1} \rightarrow y = \pm \sqrt{\frac{2a_1^2}{a_1^2-1}}$ $\frac{y}{\sqrt{2a_1^2-1}} \Rightarrow y = \sqrt{\frac{2a_1^2}{a_1^2-1}} \Rightarrow y = \frac{a_1\sqrt{2}}{\sqrt{a_1^2-1}} \Rightarrow f^{-1}(m) = \frac{a_1\sqrt{2}}{\sqrt{a_1^2-1}}$	$\Rightarrow a_1^2 a_1^2 - 2a_1^2 = a_1^2 a_1^2 - 2a_1^2 \Rightarrow a_1^2 = a_1^2$ $\Rightarrow a_1 = \pm a_1$ تفاوت علامت ندارد $a_1 = a_1 \Rightarrow \sqrt{\frac{2a_1^2}{a_1^2-1}}$ $y = \frac{a_1}{\sqrt{a_1^2-2}} \rightarrow y^2 = \frac{a_1^2}{a_1^2-2} \rightarrow a_1^2 = \frac{y^2}{y^2-1} \rightarrow y = \pm \sqrt{\frac{2a_1^2}{a_1^2-1}}$ $\frac{y}{\sqrt{2a_1^2-1}} \Rightarrow y = \sqrt{\frac{2a_1^2}{a_1^2-1}} \Rightarrow y = \frac{a_1\sqrt{2}}{\sqrt{a_1^2-1}} \Rightarrow f^{-1}(m) = \frac{a_1\sqrt{2}}{\sqrt{a_1^2-1}}$	8
$f(-\frac{r}{\omega}) \rightarrow f^{-1}(m), \frac{a_1}{1+ a_1 } = -\frac{r}{\omega} \rightarrow$ تخرج عبارت هواره چیست است و چون صاف است عبارت حقیقی است؟ صورت (a) منفی است $\Rightarrow \frac{a_1}{1-a_1} = -\frac{r}{\omega} \Rightarrow \omega a_1 = -r - 2a_1 \Rightarrow 3a_1 = -r \Rightarrow a_1 = -\frac{r}{3} = f(-\frac{r}{\omega})$ $g(m), \sqrt{a_1} - 1 \rightarrow g^{-1}(m) = (a_1+1)^2 \Rightarrow g^{-1}(-\frac{r}{\omega}) = (-\frac{r}{\omega} + \frac{\omega}{\omega})^2 = \frac{a}{2\omega}$ $\Rightarrow g^{-1}(-\frac{r}{\omega}) + f(-\frac{r}{\omega}) = \frac{a}{2\omega} - \frac{r}{3\omega} = \frac{2\sqrt{2}-\omega}{\sqrt{\omega}} = \frac{-2\sqrt{2}}{\sqrt{\omega}}$	$f(-\frac{r}{\omega}) \rightarrow f^{-1}(m), \frac{a_1}{1+ a_1 } = -\frac{r}{\omega} \rightarrow$ تخرج عبارت هواره چیست است و چون صاف است عبارت حقیقی است؟ صورت (a) منفی است $\Rightarrow \frac{a_1}{1-a_1} = -\frac{r}{\omega} \Rightarrow \omega a_1 = -r - 2a_1 \Rightarrow 3a_1 = -r \Rightarrow a_1 = -\frac{r}{3} = f(-\frac{r}{\omega})$ $g(m), \sqrt{a_1} - 1 \rightarrow g^{-1}(m) = (a_1+1)^2 \Rightarrow g^{-1}(-\frac{r}{\omega}) = (-\frac{r}{\omega} + \frac{\omega}{\omega})^2 = \frac{a}{2\omega}$ $\Rightarrow g^{-1}(-\frac{r}{\omega}) + f(-\frac{r}{\omega}) = \frac{a}{2\omega} - \frac{r}{3\omega} = \frac{2\sqrt{2}-\omega}{\sqrt{\omega}} = \frac{-2\sqrt{2}}{\sqrt{\omega}}$	9
	$f^{-1}(m), \sqrt{a_1-1} \rightarrow y^2 = a_1-1 \rightarrow y^2+1 = a_1 \rightarrow f(m), a_1^2+1$ $g(m), a_1^2+1 + \sqrt{a_1+1} \rightarrow g(m), a_1^2+1 + \sqrt{a_1+1} + \frac{1}{5} - \frac{1}{5} = (\sqrt{a_1+1} + \frac{1}{5})^2 - \frac{1}{5}$ $g^{-1}(12) \rightarrow g(m) = 12 \rightarrow (\sqrt{a_1+1} + \frac{1}{5})^2 - \frac{1}{5} = 12 \rightarrow (\sqrt{a_1+1} + \frac{1}{5})^2 = \frac{61}{5}$ $\rightarrow \sqrt{a_1+1} + \frac{1}{5} = \frac{\sqrt{305}}{5} \rightarrow \sqrt{a_1+1} = \frac{\sqrt{305}-1}{5} \rightarrow a_1^2+1 = 9 \rightarrow a_1^2 = 8$ $\Rightarrow a_1 = 2$	10