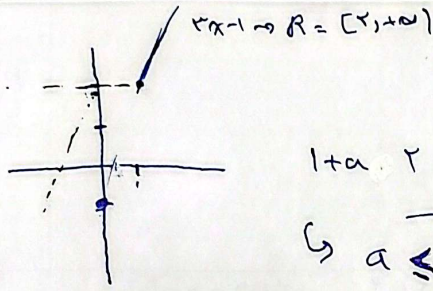


نام و نام خانوادگی: پاسخنامه تشریحی تکلیف شماره ۱۴ کلاس: دبیر: دفتر: A...

الف) $h^2 - h = 2 \rightarrow (h+1)/(h-2) < \frac{-1}{+2} \rightarrow (-1, 5) \cup (-2, 5)$ ~~مجموعه~~
 $n=2, m=3 \rightarrow \{(2, 5), (3, 2), (2, 3), (m, 2), (-1, 2)\}$

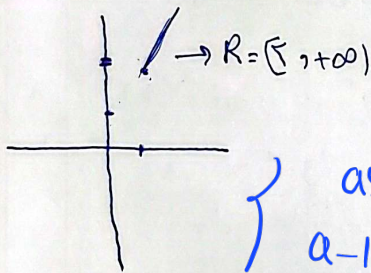
ب) $m=2 \Rightarrow \{(-1, 1), (1, 2), (2, 2), (a, 1), (a, 2, n), (2, 3)\} \Rightarrow a=-1 \rightarrow$
 $\hookrightarrow a=-1$

$\{(-1, 1), (1, 2), (2, 3), (1, n), (2, 3)\} \rightarrow n=2$



بنای برد مستقیم داشته باشند.

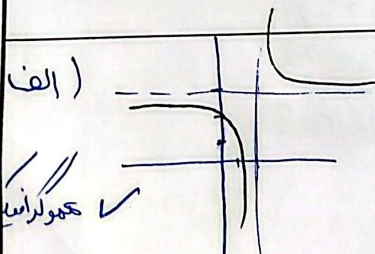
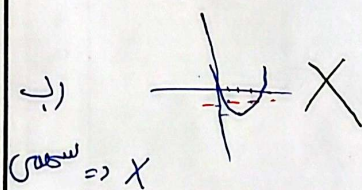
ب) $x+a$ به ازای x برابر است با $(-5, 1+a)$
 $(-\infty, 2)^2$



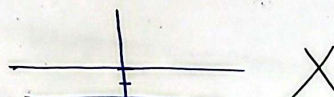
ب) $ax+a-1$ به ازای $x \leq 0$ برابر $(-\infty, a-1]$

$a-1 \leq 2 \quad a < 1$
 $a \leq 0$
 $a-1 < 2 \rightarrow a < 3$

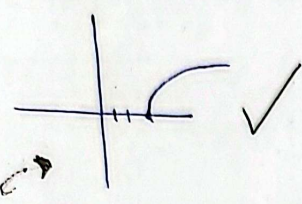
الف) $x = y^3 + 2 \rightarrow y^3 = x - 2 \rightarrow y = \sqrt[3]{x-2}$



ب) $\frac{2(x+1)}{x+2} \rightarrow y=2$



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

الف)  ✓ $x = \sqrt{y-1} \rightarrow x^2 = y-1 \rightarrow y = x^2+1$	ب) $f^{-1}(x)$ $y = x^2+1$ ✓ $y = x^2 - 2x + 3 + 1$ $y = x^2 - 2x + 4 \rightarrow y = (x-1)^2 + 3$ $\rightarrow x-1 = \pm \sqrt{y-3} \rightarrow x = 1 \pm \sqrt{y-3}$	6
$y = x + \sqrt{x} \rightarrow x = y + \sqrt{y} \rightarrow x^2 = y^2 + y + 4y\sqrt{y}$ $a=1, b=\frac{1}{2}, c=-\frac{1}{2}$ $a+2b+c=1$		7
$\frac{x_1}{\sqrt{x_1^2-1}} = \frac{x_2}{\sqrt{x_2^2-1}} \rightarrow \frac{x_1^2}{x_1^2-1} = \frac{x_2^2}{x_2^2-1} \Rightarrow x_1^2 x_2^2 - 2x_1^2 = x_1^2 x_2^2 - 2x_2^2$ $\Rightarrow x_1^2 = x_2^2 \Rightarrow x_1 = \pm x_2$ ✓ $f^{-1} \rightarrow x = \frac{y}{\sqrt{y^2-1}} \Rightarrow x^2 = \frac{y^2}{y^2-1} \Rightarrow y^2 x^2 - 2x^2 = y^2 \Rightarrow y^2 x^2 - y^2 = 2x^2$ $y^2(x^2-1) = 2x^2 \rightarrow y^2 = \frac{2x^2}{x^2-1} \rightarrow y = \sqrt{\frac{2x^2}{x^2-1}} \rightarrow y = \frac{\sqrt{2}x}{\sqrt{x^2-1}}$	یک جی می شود دو مختلف (مستقیم) داشته باشد ✓ $x_1 = x_2$	8
$y + y x = x \Rightarrow y = \frac{x-y x }{x(1-y)} \rightarrow x = \frac{y}{1-y} \rightarrow y = \frac{x}{1-x} \Rightarrow f(x)$ $\sqrt{x} = y+1 \rightarrow x = (y+1)^2 \rightarrow y = (x+1)^2 \rightarrow g^{-1}(x)$ $-\frac{5}{6} \times \frac{6}{5} = -\frac{5}{5} = -1 = f(-\frac{5}{6})$ $g^{-1}(-\frac{5}{6}) = (-\frac{5}{6}+1)^2 \rightarrow \frac{1}{6}$	$f(-\frac{5}{6}) = a \rightarrow a = -\frac{5}{6}$ $\frac{9}{50} - \frac{1}{5} \rightarrow \frac{9+40}{100} = \frac{49}{100}$	9
$y = \sqrt{x-1} = f^{-1}(x) \rightarrow y^2 = x-1 \rightarrow x = y^2+1 \rightarrow f(x) = x^2+1$ $g(x) = x^2+1 + \sqrt{x^2+1} \rightarrow g(1) = 1+1 + \sqrt{1+1} = 2 + \sqrt{2}$ $f(x) + \sqrt{f(x)} = 12 \rightarrow \sqrt{f(x)} = 3 \rightarrow f(x) = 9 \rightarrow g^{-1}(12) = 3$	$g(1) = 2 + \sqrt{2}$ $f(x) + \sqrt{f(x)} = 12 \rightarrow \sqrt{f(x)} = 3 \rightarrow f(x) = 9 \rightarrow g^{-1}(12) = 3$	10