نام و نام خانوادگی ..... پاسخنامه تشریحی تکلیف شماره ۲۷ ..... کلاس .....

۱

الف) $(9 = 3x - y) \times 2$

$-2 = x + 2y$

$18 = 7x \Rightarrow x = 2$

$y = -3 \Rightarrow \frac{x}{y} = \frac{2}{-3} = -\frac{2}{3}$

ب) $\left(\frac{1}{x} - \frac{1}{y} = -1\right) \times 5$

$-\left(\frac{5}{x} - \frac{7}{y} = -3\right)$

$\frac{2}{y} = -2 \Rightarrow y = -1 \Rightarrow$

$x = -\frac{1}{2} \Rightarrow \frac{x}{y} = \frac{-\frac{1}{2}}{-1} = \frac{1}{2}$

۲

$f(a) + 2f(2) = 3f(1)$

$2a + 2b = 3a + 3$

$-6 + 2b = -9 + 3$

$2b = 0 \Rightarrow b = 0$

$a + 1 = -2 \Rightarrow a = -3$

۳

$m^2 - 3m = -2 \Rightarrow m^2 - 3m + 2 = 0 \Rightarrow m = 2, m = 1$

$m = 2 \quad (m+1, 4) \quad (3, 0)$ ✗

$m = 1 \quad (2, 4) \quad (m+1, 4)$ ✗

هیچ مقدار

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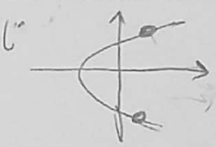
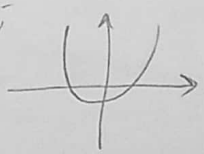
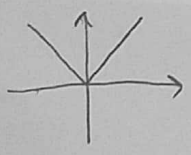
الف) تابع نیست



ب) تابع هست

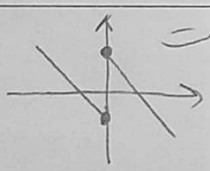


تابع هست



$y = |x|$

ج) تابع نیست



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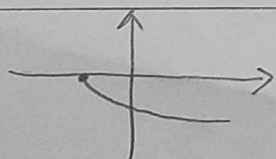
الف)



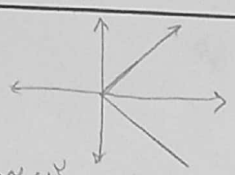
تابع هست

ب) $\frac{y_1}{\sqrt{1-y_1^2}} = \frac{y_2}{\sqrt{1-y_2^2}} \Rightarrow$

$y_2^2(1-y_1^2) = y_1^2(1-y_2^2) \Rightarrow y_2^2 = y_1^2 \Rightarrow y^2 = \pm y^1$

اگر $y^2 = -y^1 \Rightarrow \frac{y_1}{\sqrt{1-y_1^2}} = \frac{-y_1}{\sqrt{1-y_2^2}} \Rightarrow y_1 = 0 \Rightarrow y_2 = -(0) = 0 = y_1$

تابع هست

الف) 
به ازای هر $x\neq 0$ ۲ مقدار y وجود دارد. تابع نیست

ب) $y_2^3+2y_2^2+2y_2=y_1^3+2y_1^2+2y_1 \Rightarrow y_2^3-y_1^3=2(y_1^2+y_1-y_2^2-y_2)$ ۶

$(y_2-y_1)(y_2^2+y_1^2+y_1y_2)=2(y_1-y_2)(y_1+y_2+1)$ ← $y_1=y_2$ ← $y_2^2+y_1^2+y_1y_2=-2y_1-2y_2+2$

$$\frac{x^2+6x+4+1}{x^2+6x+3^2+3}=\frac{(x+3)^2+1}{(x+3)^2+3}=\frac{3+1}{3+3}=\frac{4}{6}=\frac{2}{3}$$ ۷

$y=2x-a \Rightarrow -4=-2-a \Rightarrow a=1$

$x^2+x+b=y \Rightarrow -4=-1-1+b \Rightarrow b=-2$

$\begin{cases} y=2x-1 \\ y=x^2+x-2 \end{cases} \Rightarrow 2x-1=x^2+x-2 \Rightarrow x^2-2x-1=0 \Rightarrow$

$(x+1)(x^2-x-1)=0$ ← $x=-1$ ← $S=\frac{-b}{a}=\frac{+1}{1}=+1$ ۸

$2a=a+b \Rightarrow b=a$

$a+b=a-2b+1 \Rightarrow 3b=1 \Rightarrow b=\frac{1}{3} \Rightarrow a=\frac{1}{3}$ ۹

$\frac{4x^2-ax+c+1}{bx+2}=x \Rightarrow bx^2+2x=4x^2-ax+c+1 \Rightarrow$

$b=4 \quad a=-2 \quad c+1=0 \Rightarrow c=-1$ ۱۰

$a+b+c=4-2-1=0$