کار در منزل

DATE / / SUBJECT:

۱)

$y = ax^2 + bx + c \qquad A(-1,9)$

$-\frac{b}{2a} = -1 \quad b = 2a \qquad -a + 2a + c = 9 \qquad 16a = -8 \quad a = -\frac{1}{2}$

$9a + 6a + c = 1 \qquad b = -1$

$y = ax^2 + bx + c \qquad -a + c = 9 \quad c = \frac{17}{2}$

$y = -\frac{1}{2}x^2 - x + \frac{17}{2}$

۲)

$2x^2 + mx + m + 4 = 0 \qquad -\frac{b}{a} = -\frac{m}{2} > 0 \qquad \frac{c}{a} = \frac{m+4}{2} > 0$

$\Delta > 0 \quad m^2 - 8m - 48 > 0 \qquad m < 0 \qquad m + 4 > 0$

$(m-12)(m+4) > 0 \qquad m > -4$

$-4 \qquad 12$

$+ \quad - \quad +$

$-4 < m < -4$

$m < -4 \,,\; 12 < m$

۳)

$3x^2 + (2m-1)x + 2 - m = 0 \qquad -\frac{b}{a}$

$\Delta > 0 \quad 4m^2 - 4m + 1 - 24 + 12m > 0 \qquad (\alpha + \beta) = \frac{1}{\alpha\beta} \quad \frac{a}{c}$

$4m^2 + 8m - 23 > 0 \qquad \frac{1-2m}{3} = \frac{3}{2-m}$

$4 \times 1 - 8 - 23 < 0$ غ ق ق

$2 \times 2m^2 - 5m - 7 = 0$

$\frac{4 \times 49}{4} + 28 - 23 > 0$ ق ق

$4m^2 - 10m - 14 = 0$

$\Downarrow$

$(2m-7)(2m+2) = 0$

$m = \frac{7}{2} \qquad \frac{7}{2} \qquad -1$

$x^2-Sx+P \Rightarrow (x^2-\frac{51}{4}x-\frac{221}{4})=4x^2-51x-221$

$-64-\frac{1}{4}+9=-\frac{221}{4}$

۱۴)

$x^2-x-4=0 \qquad x_1+x_2=1 \qquad x_1x_2=-4$

$x_2^3+x_1^3+\frac{1}{x_1}+\frac{1}{x_2} \qquad x_1^3+x_2^3=S^3-3SP=1-3\times1(-4)=13$

$13+\frac{x_1+x_2}{x_1x_2}=13-\frac{1}{4}=\frac{51}{4} \qquad P=(x_2^3+\frac{1}{x_1})(x_1^3+\frac{1}{x_2})=$

$(x_1x_2)^3+x_2^2+x_1^2+\frac{1}{x_1x_2}$

۱۵)

$x\sqrt[3]{x}-\sqrt[3]{x^2}+1-\frac{1}{\sqrt[3]{x^2}}+\sqrt[3]{x^2}-x=2\sqrt[3]{x}$

$(x-2)\sqrt[3]{x}-\frac{\sqrt[3]{x}}{x}=0$

$x(x-2)=1 \qquad x^2-2x-1=0$

$x_1+x_2=2$

۱۶)

$x_1=3x_2$ سه برابر

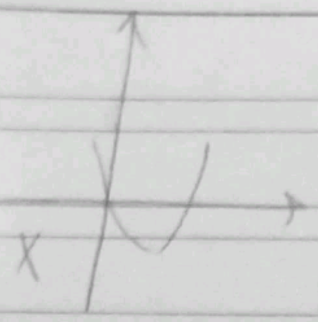
جمع ریشه: $4x_2=\frac{a}{3} \qquad \rightarrow 3x_2^2=\frac{4}{3} \qquad x_2^2=\frac{4}{9} \qquad x_2=\pm\frac{2}{3}$

$x_1=\pm 2$

$4\times(\pm\frac{2}{3})=\frac{a}{3} \qquad a=\pm 8$

اختلاف دو مقدار $\rightarrow |8-(-8)|=16$

DATE / / SUBJECT:



$C=0$

$a>0$ $\quad \frac{c}{a}=0$ $\quad -\frac{b}{a}>0$

$-\frac{2a-3}{a}>0$

$-\frac{3}{2}$ $\quad 0$

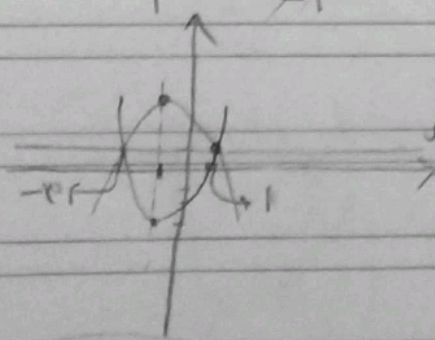
$- \quad + \quad -$

a

$-\frac{3}{2}<a<0$

$\frac{-a}{2}=\frac{2}{-4}$ $\quad a=1$

$-x^2-2x+b$ و x^2+2x-2



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

$1-2-2=-3$

$-1-2+b=1$ $\quad x^2+2x-2=1$

$b=4$ $\quad x^2+2x-3=0$

$ab=8$

$2at^2+at-9=0$ $\quad 2(t+\frac{1}{2})^2-a(t+\frac{1}{2})+b=0$

$2a=2$ $\quad a=1$ $\quad 2t^2+2t+\frac{1}{2}-at-\frac{a}{2}+b=0$

$\frac{1-1}{2}+b=-9$ $\quad 2t^2+(2-a)t+\frac{1-a}{2}+b=2at^2+at-9=0$

$b=-9$

$[\frac{ab}{4}]=[\frac{-9}{4}]=[-\frac{3}{2}]=-2$

SUBJECT:

۴۱.

$x^۲+۲x-۳m=۰ \qquad x^۲+۶x+m=۰$

$\cancel{x^۲}+۲x-۳m=\cancel{x^۲}+۶x+m$

$\cancel{۴}x=-\cancel{۴}m$

$x=-m$

$m^۲-۶m+m=۰$

$m^۲=۵m$

$m=۵ \rightsquigarrow x^۲+۲x-۱۵=۰$

$(x+۵)(x-۳)=۰$

$-۵ \qquad ۳$

$x^۲+۶x+۵=۰$

$(x+۵)(x+۱)=۰$

$-۵ \qquad -۱$

$|۳-(-۱)|=۴$