DATE / / SUBJECT:

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

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

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

$-a + c = 9$ $c = \frac{17}{2}$

$y = ax^2 + bx + c$

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

(2) $2x^2 + mx + m + 9 = 0$ $-\frac{b}{a} = -\frac{m}{2} > 0$ $\frac{c}{a} = \frac{m+9}{2} > 0$

$\Delta > 0$ $m^2 - 8m - 72 > 0$ $m < 0$ $m + 9 > 0$

$(m - 12)(m + 6) > 0$ $m > -9$

-6		12	
+	-		+

$-9 < m < -6$

$m < -6$, $12 < m$

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

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

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

$4 \times 1 - 8 - 23 < 0$ غ ق ق $2 \times 2m^2 - 5m - 7 = 0$

$4 \times \frac{49}{4} + 28 - 23 > 0$ ق ق $4m^2 - 10m - 14 = 0$

⇓

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

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

CLASS memo

SUBJECT:

$x^2 - 4x - 3 = 0$ $\quad x_1 + x_2 = 4$ $\quad x_1 x_2 = -3$

$\frac{1}{x_1} + \frac{1}{x_2} = \frac{x_1 + x_2}{x_1 x_2} = \frac{4}{-3} = -\frac{4}{3}$

$x_1^2 + x_2^2 = (x_1 + x_2)^2 - 2x_1x_2 = 16 + 6 = 22$

$\frac{x_1}{x_2} + \frac{x_2}{x_1} = \frac{x_1^2 + x_2^2}{x_1 x_2} = \frac{22}{-3}$

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

$= 9 + \frac{1}{9} + \frac{x_1^2 + x_2^2}{x_1^2 x_2^2} = \frac{82}{9} + \frac{22}{9} = \frac{104}{9}$

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

$(x-1)\sqrt{x} - \frac{\sqrt{x}}{x} = 0$

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

$x_1 + x_2 = 1$

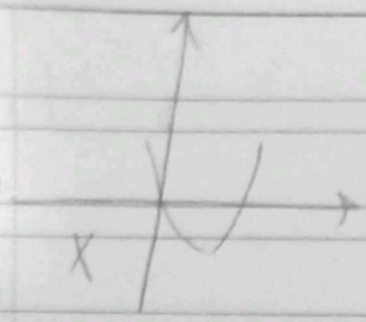
$x_1 = 3x_2$

$\therefore 4x_2 = \frac{a}{3} \quad \rightarrow 3x_2^2 = \frac{4}{3} \quad x_2^2 = \frac{4}{9} \quad x_2 = \pm\frac{2}{3}$

$4x(\pm\frac{2}{3}) = \frac{a}{3} \quad a = \pm 8$

$x_1 = \pm 2$

$\rightarrow |8 - (-8)| = 16$



$(c=0 \Rightarrow$ ۱ ریشه صفر$)$

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

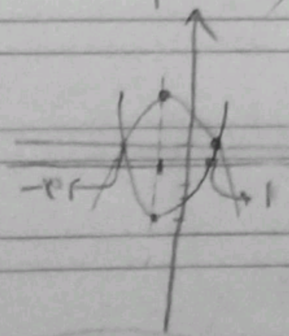
$-\frac{۲a-۳}{a}>0$

$-\frac{۳}{۲}<a<0$

(a [illegible])

$\frac{-a}{۲}=\frac{۲}{-۴} \quad$ (a=۱)

$-x^۲-۲x+b \; , \; x^۲+۲x-۲$



$y=1 \quad \frac{۲}{-۲}=-1 \quad | \quad x=1 \quad \frac{-۲}{۲}=-1 \quad 1-۲-۲=-۳$

$-1-۲+b=1 \qquad x^۲+۲x-۲=1$

(ab=۸) (b=۴) $\qquad x^۲+۲x-۳=0$

$۲at^۲+at-۹=0 \qquad ۲(t+\frac{1}{۲})^۲-a(t+\frac{1}{۲})+b=0$

$۲a=۲ \quad a=1 \qquad ۲t^۲+۲t+\frac{1}{۲}-at-\frac{a}{۲}+b=0$

$\frac{1-1}{۲}+b=-۹ \qquad ۲t^۲+(۲-a)t+\frac{1-a}{۲}+b=۲at^۲+at-۹=0$

$b=-۹$

$[\frac{ab}{۴}]=[\frac{-۹}{۴}]=[-\frac{۳}{۲}]=-۲$

SUBJECT:

$x^2+2x-2m=0 \quad x^2+4x+m=0$

$x^2+2x-2m=x^2+4m+m$

$-2x=-2m$

$x=-m$

$m^2-4m+m=0$

$m^2=3m$

$m=0 \rightsquigarrow x^2+2x-15=0$

$(x+5)(x-3)=0$

$-5 \quad 3$

$x^2+4x+3=0$

$(x+3)(x+1)=0$

$-3 \quad -1$

$|1^n-(-1)|=2$