

الف -  $y = 2x^2 - 4x + 1$   
 $a > 0 \rightarrow \text{Min}$   
 $x = \frac{-b}{2a} = \frac{4}{4} = 1$   
 $y = 2(1)^2 - 4(1) + 1 = -1$  جایز است

ب -  $y = -2x^2 + 4x - 5$   
 $a < 0 \rightarrow \text{Max}$   
 $x = \frac{-b}{2a} = \frac{4}{-4} = -1$   
 $y = -2(-1)^2 + 4(-1) - 5 = -9$   
 $\Delta = b^2 - 4ac = 16 - 4(-2)(-5) = -24$

الف -  $y = x^2 - 4x + 1$   
 $a > 0$   
 $x = \frac{-b}{2a} = \frac{4}{2} = 2$   
 $y = 9 - 4 + 1 = 6$  (Min(U))  
 دو نقطه از جدول تعیین:  $\Delta = b^2 - 4ac = 16 - 4(1)(1) = 12$   
 $x = \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{4 \pm \sqrt{12}}{2} = 2 \pm \sqrt{3}$   
 $y = 9 - (2 + \sqrt{3})^2 + 1 = 9 - (4 + 4\sqrt{3} + 3) + 1 = 3 - 4\sqrt{3}$   
 $y = 9 - (2 - \sqrt{3})^2 + 1 = 9 - (4 - 4\sqrt{3} + 3) + 1 = 3 + 4\sqrt{3}$

ب -  $y = -x^2 + 4x + 1$   
 $a < 0 \rightarrow \text{Max(N)}$   
 $x = \frac{-b}{2a} = \frac{4}{-2} = -2$   
 $y = -(-2)^2 + 4(-2) + 1 = -7$   
 $\Delta = b^2 - 4ac = 16 - 4(-1)(1) = 20$   
 $x = \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{4 \pm \sqrt{20}}{-2} = -2 \pm \sqrt{5}$   
 $y = -(-2 + \sqrt{5})^2 + 4(-2 + \sqrt{5}) + 1 = -5 + 4\sqrt{5} - 4 - 8 + 4\sqrt{5} + 1 = -16 + 8\sqrt{5}$   
 $y = -(-2 - \sqrt{5})^2 + 4(-2 - \sqrt{5}) + 1 = -5 - 4\sqrt{5} - 4 - 8 - 4\sqrt{5} + 1 = -16 - 8\sqrt{5}$

$\alpha, \beta$  ریشه های  $2x^2 + Kx^2 - 9x - 2 = 0$   
 $\alpha + \beta = 1$   
 $\alpha\beta = -2$   
 $K = 9$   
 $\alpha\beta = -2 \rightarrow \alpha\beta\delta = 2$   
 $-\alpha\beta\delta = 2$   
 $-\alpha\delta = \frac{2}{\beta}$   
 $-\alpha\delta = \frac{2}{1}$   
 $\alpha\delta = -2$   
 $\alpha + \beta + \delta = K$   
 $1 - 2 + \delta = K$   
 $\delta - 1 = K$   
 $\delta = K + 1$   
 $K = -2$

$\alpha, \beta$  ریشه های  $x^2 - mx + m = 0$   
 $\alpha + \beta = m$   
 $\alpha\beta = m$   
 $\alpha' = \frac{1}{\alpha}, \beta' = \frac{1}{\beta}$   
 $\alpha' + \beta' = \frac{\alpha + \beta}{\alpha\beta} = \frac{m}{m} = 1$   
 $\alpha'\beta' = \frac{1}{\alpha\beta} = \frac{1}{m}$   
 $\alpha' + \beta' = 1$   
 $\alpha'\beta' = \frac{1}{m}$   
 $\Delta = 1 - 4(\frac{1}{m}) = 1 - \frac{4}{m}$   
 $\Delta = 0 \rightarrow 1 - \frac{4}{m} = 0 \rightarrow m = 4$   
 $\Delta > 0 \rightarrow 1 - \frac{4}{m} > 0 \rightarrow m > 4$   
 $\Delta < 0 \rightarrow 1 - \frac{4}{m} < 0 \rightarrow m < 4$

نقطه تقاطع آن با محور عرضها در کسب یک نقطه اند.  
 $y = 2x^2 - (m+2)x + m \rightarrow a+b+c = 2-m-2+m = 0$   
 $x_1 = 1$   
 $x_2 = \frac{c}{a} = \frac{m}{2}$   
 $S_{\Delta} = \frac{1}{2} |m(\frac{m}{2} - 1)| = \frac{m}{4} |m - 2|$   
 $|m(\frac{m}{2} - 1)| = \frac{m}{2} |m - 2| = \frac{m}{2} \times 2 = m$   
 $|m(\frac{m}{2} - 1)| = 4$   
 $|m(m-2)| = 8 \rightarrow m = -1, 3$

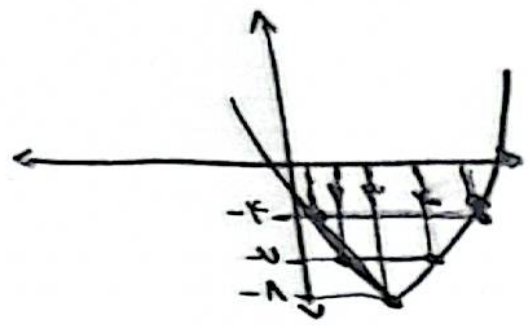
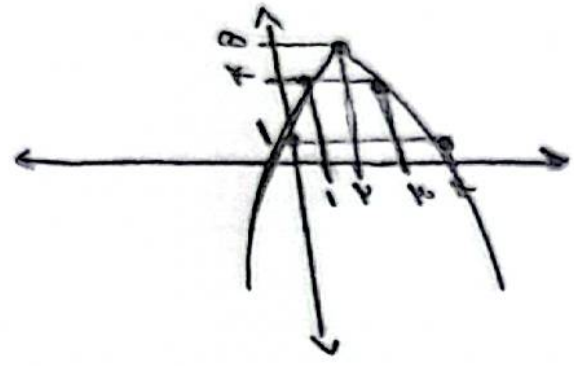




① روش :

0	1	2	3	4
1	2	3	4	1

1	2	3	4	5
-1	-2	-3	-4	-5



مقدار ج :

الف -