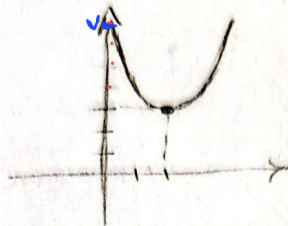


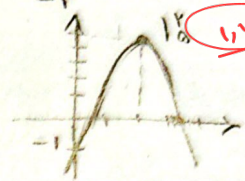
الف) $y = x^2 - 4x + 7$ $\Delta = 16 - 28 = -12 < 0$
 $a > 0 \Rightarrow x_{min}$

ext $-\frac{b}{2a} = \frac{4}{2} = 2$
 $-\frac{\Delta}{4a} = -\frac{12}{4} = -3$



ب) $y = -x^2 + 4x - 1$ $\Delta = 16 + 4 = 20$
 $a < 0 \Rightarrow x_{max}$ $x = \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{-4 \pm \sqrt{20}}{-2}$
 $= \frac{-4 + 2\sqrt{5}}{-2} = 2 - \sqrt{5}$, $\frac{-4 - 2\sqrt{5}}{-2} = 2 + \sqrt{5}$

ext $-\frac{b}{2a} = -\frac{4}{-2} = 2$
 $-\frac{\Delta}{4a} = -\frac{20}{-4} = 5$



$2x^2 + (m+1)x + \frac{1}{2}m + 2 = 0$ ؟ مقدار m

الف) $\Delta > 0$ $\Delta = b^2 - 4ac$

$(m+1)^2 - 4(2)(\frac{1}{2}m + 2) > 0 \Rightarrow m^2 - 2m - 1 > 0$

$\Rightarrow (m-2)(m+1) > 0 \Rightarrow m < -1$ or $m > 2$

ج) $\Delta < 0$ $m^2 - 2m - 1 < 0 \Rightarrow (m-2)(m+1) < 0 \Rightarrow -1 < m < 2$

ب) $\Delta = 0$

$m^2 - 2m - 1 = 0 \Rightarrow m = 2 \pm \sqrt{5}$

مقدار m را بیابید

$m^2 - 2m - 1 > 0 \Rightarrow m < -1$ or $m > 2$

$m^2 - 2m - 1 < 0 \Rightarrow -1 < m < 2$

$y = \frac{(m-2)x^2 - 2(m+1)x + 10}{a}$

الف) $\Delta > 0$ $S < 0$ $P > 0$

$S = -\frac{b}{a} = -\frac{-2(m+1)}{m-2} = \frac{2m+2}{m-2} < 0$

$P = \frac{c}{a} = \frac{10}{m-2} > 0 \Rightarrow m > 2$

این دو باره اشتراک را در نظر بگیرید

؟ مقدار m $a < 0$
 $\Delta > 0 \Rightarrow 4m^2 - 44m + 11 > 0$
 $\Delta = (-44)^2 - 4(4)(11) = 0$

ب) $m = \frac{44 \pm \sqrt{0}}{8} = \frac{44}{8} = \frac{11}{2}$

$x_1 < 0 < x_2 \Rightarrow -1 < x_1 < 1 < x_2 \Rightarrow -1 < x_1 < 1$

$S = 2x_1 + x_2 > 0 \Rightarrow -\frac{b}{a} = \frac{2m+2}{m-2} > 0$

$P < 0 \Rightarrow m < 2$
 $S < 0 \Rightarrow m < 2 \Rightarrow -1 < m < 2$

$y = (m-2)x^2 - 2(m+1)x + 10$

الف) $\frac{c}{a} < 0 \Rightarrow \frac{10}{m-2} < 0 \Rightarrow m < 2$

ب) $x = -2$ محور تقارن
 $-\frac{b}{2a} = -2 \Rightarrow \frac{b}{2a} = 2 \Rightarrow b = 4a$
 $-2m - 2 = 4m - 11 \Rightarrow -6m = -9 \Rightarrow m = \frac{3}{2}$

$\frac{2x^2}{3} - (2\sin\alpha)x + \frac{4}{3} = 0$

$\Delta = (-2\sin\alpha)^2 - 4(\frac{2}{3})(\frac{4}{3}) > 0 \Rightarrow 4\sin^2\alpha - \frac{32}{9} > 0 \Rightarrow 4(\sin^2\alpha - 1) > 0 \Rightarrow \sin^2\alpha - 1 > 0$

$\Rightarrow \sin^2\alpha > 1$ $\Rightarrow \sin\alpha = \pm 1$

$\sin\alpha = 1 \rightarrow \sin\alpha = \pm 1$
 $\sin\alpha = 1 \rightarrow (2\alpha - \frac{\pi}{2})^2 \rightarrow \alpha = \frac{\pi}{4}$
 $\sin\alpha = -1 \rightarrow (2\alpha + \frac{\pi}{2})^2 \rightarrow \alpha = -\frac{\pi}{4}$

