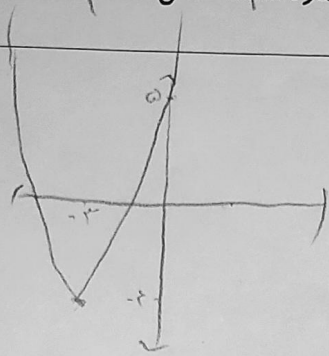
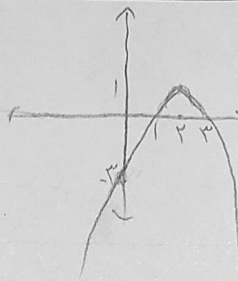




الف) $\frac{-3}{2} \rightarrow \frac{-4}{1}$ Min (ب)

$-x^2 + 4x - 3 = 0$ (ب) $(1, 0)$ و $(3, 0)$
 $\Rightarrow (x^2 - 4x + 3) = 0$
 $\Rightarrow (x-1)(x-3) = 0$
 $\Rightarrow x = 1, 3$



الف) Max $\frac{1}{2}$

$\frac{3 \pm \sqrt{9-4a}}{4}$

$\Delta = 9-4a > 0 \Rightarrow a < \frac{9}{4}$ الف) $a < \frac{9}{4}$
 if $a = \frac{9}{4} \Rightarrow \Delta = 0 \Rightarrow x = \frac{3}{2} \Rightarrow a = \frac{9}{4}$ (ب)
 if $a > \frac{9}{4} \Rightarrow \Delta < 0 \Rightarrow$ متصور نمیشود $\Rightarrow \Delta < 0 \Rightarrow$ جواب ندارد
 $\Delta \geq 0 \Rightarrow a \leq \frac{9}{4}$ (د)

الف) $x^2 - 2x - 1 = 2 \Rightarrow x^2 - 2x + 1 = 3 \Rightarrow (x-1)^2 = 3 \Rightarrow x-1 = \pm\sqrt{3} \Rightarrow x = 1 \pm \sqrt{3}$

ب) $x^2 - x - 1 = \frac{5}{4} \Rightarrow x^2 - x + \frac{1}{4} = \frac{9}{4} \Rightarrow (x - \frac{1}{2})^2 = \frac{9}{4} \Rightarrow x - \frac{1}{2} = \pm\sqrt{\frac{9}{4}} \Rightarrow x = \frac{1}{2} \pm \frac{3}{2}$

الف) $x^2 - 2x - 1 \Rightarrow \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{2 \pm \sqrt{4+4}}{2} = \frac{2 \pm 2\sqrt{2}}{2} \Rightarrow x = 1 \pm \sqrt{2}$

ب) $x^2 + x - 4 \Rightarrow \frac{-1 \pm \sqrt{1+16}}{2} = \frac{-1 \pm \sqrt{17}}{2} \Rightarrow x$

الف) $x^2 - 11x + 28 = (x-4)(x-7) = 0 \Rightarrow x=4, x=7$

ب) $x^2 + 3x - 28 = (x-4)(x+7) = 0 \Rightarrow x=4, x=-7$

٩

الف) $5x^2 - 12x + 7 \rightarrow x^2 - 12x + 35 = (x-5)(x-7) \Rightarrow x = \frac{5}{5} = 1, x = \frac{7}{5}$

ب) $3x^2 - 10x + 7 \rightarrow x^2 - 10x + 21 = (x-3)(x-7) \Rightarrow x = \frac{3}{3} = 1, x = \frac{7}{3}$

٧

الف) $2x^2 - 5x + 3 \rightarrow a+b+c \Rightarrow x=1, x=\frac{3}{2}$

ب) $2x^2 + 5x + 3 \rightarrow a+c=b \Rightarrow x=-1, x=-\frac{3}{2}$

ج) $2x^2 - 5x + 1 \rightarrow \frac{5 \pm \sqrt{25-8}}{4} = \frac{5 \pm \sqrt{17}}{4} = x$

د) $4x^2 + 7x + 9 \rightarrow \frac{-7 \pm \sqrt{49-144}}{8} \Rightarrow \Delta < 0 \rightarrow$ معادله حقیقی ندارد

١

$S = \frac{-b}{a} = \frac{3}{1} = 3 \quad P = \frac{c}{a} = \frac{-2}{1} = -2$

الف) $9 - (-4) = 13$

ب) $27 - 3(-9) = 54$

٩

الف) $\frac{1 \times 4}{1 \times 1} + \frac{9 \times 4}{1 \times 1} = 40$

ب) $\frac{3 \times 4}{1 \times 1} - \frac{4 \times 9}{1 \times 1} = -24$

١٠