

$$x^2 - 11x + 18 = 0 \rightarrow (x-1)(x-18) = 0 \rightarrow x = 1, 18$$

الف

$$x^2 + 13x - 18 = 0 \rightarrow (x+18)(x-1) = 0 \rightarrow x = -18, 1$$

ب

$$5x^2 - 12x + 7 = 0 \rightarrow x^2 - 12x + 14 = 0 \rightarrow (x-1)(x-13) = 0 \rightarrow x = \frac{1}{5}, \frac{13}{5}$$

الف

$$3x^2 - 10x + 7 = 0 \rightarrow x^2 - 10x + 21 = 0 \rightarrow (x-3)(x-7) = 0 \rightarrow x = \frac{3}{3}, \frac{7}{3}$$

ب

★ باید آخر کار تقسیم بر a کنیم

$$2x^2 - 5x + 3 = 0 \rightarrow \dots + 19 + \frac{3}{2}$$

$$2x^2 - 5x + 3 = 0 \rightarrow a+c=b \rightarrow -19 - \frac{3}{2}$$

$$2x^2 - 5x + 1 = 0 \rightarrow \Delta = 25 - 4 \times 1 \times 2 = 17 \rightarrow x = \frac{5 + \sqrt{17}}{4} \text{ و } \frac{5 - \sqrt{17}}{4}$$

ج

$$4x^2 + 7x + 9 = 0 \rightarrow \Delta = 49 - 144 = -95 \rightarrow \text{چون دلتا منفی شد، ریشه ندارد}$$

د

$$x^2 - 3x - 2 = 0 \rightarrow \Delta = 9 + 8 = 17 \rightarrow x = \frac{3 + \sqrt{17}}{2} \text{ و } \frac{3 - \sqrt{17}}{2}$$

$$S = \frac{3 + \sqrt{17}}{2} + \frac{3 - \sqrt{17}}{2} = \frac{6}{2} = 3, P = \frac{(3 + \sqrt{17})(3 - \sqrt{17})}{4} = \frac{9 - 17}{4} = -\frac{8}{4} = -2$$

$$\text{الف) } S^2 - 2P = 9 + 4 = 13$$

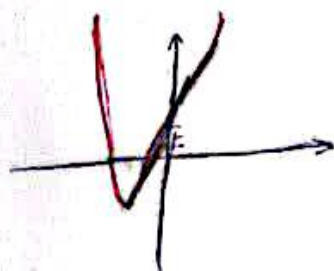
$$\text{ب) } S^3 - 3SP = 27 + 9 = 36$$

$$\text{الف) } \left(\frac{1}{5}\right) + \left(\frac{9}{5}\right) = \frac{1 \times 9}{5} + \frac{9 \times 1}{5} = 21 + 39 = 60$$

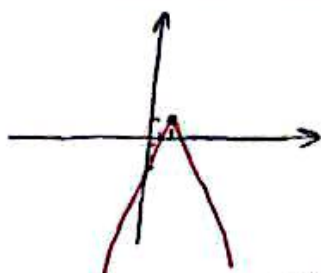
$$\text{ب) } \left(\frac{9}{3}\right) - \left(\frac{1}{2}\right) = \frac{9 \times 9 \times 2}{1 \times 3 \times 2} - \frac{1 \times 2}{1} = 18 - 2 = 16$$

الف) $[-\frac{1}{2}, \frac{1}{2}]$ و نقطه min را :

ب) ←



الف) $[1, 2]$



$$a+b+c=0$$

ب) با توجه به این دس می دانیم که ریشه های معادله نقاط در محور x ها است دس
 $+1$ و $+2 \rightarrow +1$ و $+\frac{c}{a} \rightarrow +1$ و $+\frac{c}{a}$

$$a+b+c=0 \rightarrow$$

$>$

$$2=a$$

جواب: ندارد

$$\frac{9}{4} \text{ ب) } a$$

$$\frac{12}{15} \text{ جواب: } \frac{12}{15}$$

$$a=1 \text{ الف) } a$$

$$+1 \text{ و } +\frac{1}{2} \text{ جواب ها: } +1 \text{ و } +\frac{1}{2}$$

الف) $x^2 - 2x - 1 = 0 \rightarrow x^2 - 2x + 1 = 2 \rightarrow (x-1)^2 = 2 \rightarrow x-1 = \pm\sqrt{2} \rightarrow x = \frac{\sqrt{4}+1}{2} \text{ و } \frac{-\sqrt{4}+1}{2}$

ب) $x^2 - x - 1 = 0 \rightarrow x^2 - x + \frac{1}{4} = \frac{5}{4} \rightarrow (x - \frac{1}{2})^2 = \frac{5}{4} \rightarrow (x - \frac{1}{2}) = \pm\frac{\sqrt{5}}{2} \rightarrow x = \frac{\sqrt{5}+1}{2} \text{ و } \frac{\sqrt{5}-1}{2}$

الف) $x^2 - 2x + 1 = 0 \rightarrow \Delta = 4 - 4 = 0 \rightarrow x = \frac{2 \pm \sqrt{0}}{2} \rightarrow \underline{\underline{\frac{2}{2} = 1}}$

ب) $x^2 + x - 1 = 0 \rightarrow \Delta = 1 + 4 = 5 \rightarrow x = \frac{-1 \pm \sqrt{5}}{2} \rightarrow \frac{-1 + \sqrt{5}}{2} \text{ و } \frac{-1 - \sqrt{5}}{2}$