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نام و نام خانوادگی: پاسخنامه تشریحی تکلیف شماره ... کلاس: پرستار

الف) $x^2 - 6x + 8 = 0 \Rightarrow x^2 - 4x + 4 = 1$ ✓

$\Rightarrow (x-2)^2 = 1 \Rightarrow x-2 = \pm 1 \Rightarrow \begin{cases} x=4 \\ x=2 \end{cases}$

ب) $x^2 + 8x + 7 = 0 \Rightarrow x^2 + 8x + 14 = -9 \Rightarrow (x+4)^2 = 9 \Rightarrow x+4 = \pm 3$

$\Rightarrow \begin{cases} x = -1 \\ x = -7 \end{cases}$ ✓

الف) $x^2 - 5x + 4 = 0 \Rightarrow (x-3)(x-2) = 0 \Rightarrow \begin{cases} x=3 \\ x=2 \end{cases}$ ✓

ب) $x^2 - 5x - 14 = 0 \Rightarrow (x-7)(x+2) = 0 \Rightarrow \begin{cases} x=7 \\ x=-2 \end{cases}$ ✓

الف) $x^2 - 3x - 4 = 0$, $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \Rightarrow x = \frac{3 \pm \sqrt{9 + 16}}{2} = \frac{3 \pm 5}{2}$ ✓

ب) $2x^2 - 4x + 1 = 0$, $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \Rightarrow x = \frac{4 \pm \sqrt{16 - 8}}{4} = \frac{4 \pm \sqrt{8}}{4} = \frac{4 \pm 2\sqrt{2}}{4} = 1 \pm \frac{\sqrt{2}}{2}$ ✓

الف) $ax^2 + bx + c = 0 \Rightarrow a+b+c = 0 \Rightarrow x = \begin{cases} x = \frac{1}{a} = 1 \\ x = \frac{c}{a} = 2 \end{cases}$ ✓

ب) $ax^2 + bx + c = 0 \Rightarrow a+c = b \Rightarrow 1-3 = 1 \Rightarrow \begin{cases} x = -1 \\ x = -\frac{c}{a} = -\frac{3}{1} = -3 \end{cases}$ ✓

الف) $x^2 - 12x + 35 = 0 \Rightarrow (x-7)(x-5) = 0 \Rightarrow \begin{cases} x=7 \\ x=5 \end{cases}$ ✓

ب) $x^2 - 10x + 21 = 0 \Rightarrow (x-7)(x-3) = 0 \Rightarrow \begin{cases} x=7 \\ x=3 \end{cases}$ ✓

دایره مماس بر محور $\Delta = 4 - 12 = -8 < 0 \Rightarrow$ $2x^2 + 5x - 1 = 0$ (الف)

ریشه ندارد $2x^2 - x + 2 = 0 \Rightarrow \Delta = 1 - 16 = -15 < 0$ (ب)

دایره مماس بر محور است $2x^2 - 4x + 2 = 0 \Rightarrow \Delta = 16 - 16 = 0$ (ج)

ریشه ندارد $2x^2 - x + 1 = 0 \Rightarrow \Delta = 1 - 8 = -7 < 0$ (د)

$\Delta = b^2 - 4ac$

(الف) $9 - 1a > 0$

$\Rightarrow 9 > 1a$

$\Rightarrow \frac{9}{1} > a$ ✓

(ب) $9 - 1a = 0$

$\Rightarrow 9 = 1a$

$\Rightarrow \frac{9}{1} = a$

$a = \frac{9}{1}$

(ج) $9 - 1a < 0$

$\Rightarrow 9 < 1a$

$\Rightarrow \frac{9}{1} < a$ ✓

(د) $9 - 1a > 0$

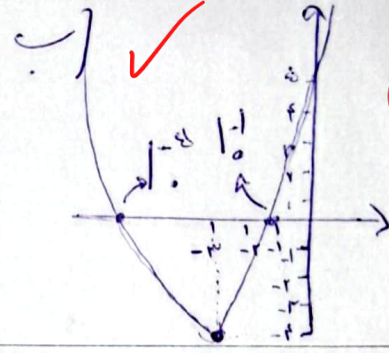
$\Rightarrow 9 > 1a$

$\Rightarrow \frac{9}{1} > a$ ✓

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معمولاً است (الف)

$x = -\frac{b}{2a} = -\frac{+4}{2} = -2$
نقطه المماس $x = -2$
 $\Rightarrow 9 - 1a + 4 = -4$

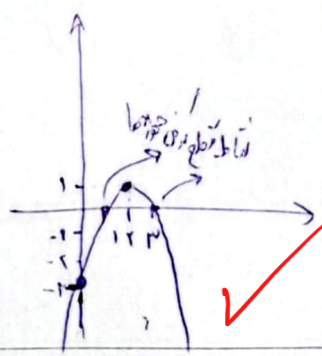


معمولاً است (الف)

$x = -\frac{b}{2a} = -\frac{-4}{-2} = 2$

$\Rightarrow 9 - 1a + 16 = 1$

نقطه المماس $x = 2$



(ب) $a^2 + b^2 + c^2 = 0$

$a + b + c = 0 \Rightarrow \begin{cases} x=1 \\ x=\frac{c}{a} = -1 \end{cases}$

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

(الف) $S^2 - 2P = \left(\frac{3}{1}\right)^2 - 2\left(\frac{-2}{1}\right) = 9 + 4 = 13$

(ب) $S^3 - 3SP = \left(\frac{3}{1}\right)^3 - 3\left(\frac{3}{1}\right)\left(\frac{-2}{1}\right) = 27 + 18 = 45$

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