

نام و نام خانوادگی کلاس پاسخنانه تشریحی تکلیف شماره کلاس

$$x^2 - 4x + 1 = 0 \rightarrow (x-3)^2 = x^2 - 4x + 1 + 1 = 1 \Rightarrow (x-3)^2 = 1$$

بهر دو طرف معادله ارا اضافه می‌کنیم

$$x-3 = \pm 1 \Rightarrow x = 2, 4$$

$$x^2 + 12x + 1 = 0$$

$$(x+4)^2 = x^2 + 12x + 16 = 9 \Rightarrow (x+4)^2 = 9$$

$$x+4 = \pm 3 \Rightarrow x = -1, -7$$

$$x^2 - 5x + 4 = 0$$

$$(x-1)(x-4) = x^2 - 5x + 4$$

$$x = 1, 4$$

$$x^2 - 5x - 14 = 0$$

$$(x-7)(x+2) = x^2 - 5x - 14$$

$$x = 7, -2$$

$$x^2 - 2x - 9 = 0 \rightarrow \frac{-b \pm \sqrt{\Delta}}{2a} \Rightarrow \Delta = b^2 - 4ac = 4 + 36 = 40$$

$$x = \frac{+2 \pm \sqrt{40}}{2} = \frac{+2 \pm 2\sqrt{10}}{2} = 1 \pm \sqrt{10}$$

$$2x^2 - 4x + \frac{1}{2} = 0 \rightarrow \frac{-b \pm \sqrt{\Delta}}{2a} \Rightarrow \Delta = 16 - 2 = 14$$

$$x = \frac{4 \pm \sqrt{14}}{4} = \frac{2 \pm \sqrt{14}}{2}$$

$$x^2 - 3x + 2 = 0$$

$$(x-1)(x-2) = x^2 - 3x + 2$$

$$x = 1, 2$$

$$4x^2 + x - 2 = 0$$

$$(x+2)(x-1) = x^2 + x - 2$$

$$x = -2, 1$$

$$x^2 - 12x + 1 = 0$$

$$x^2 - 12x + 36 = 35 \Rightarrow (x-6)^2 = 35$$

$$x-6 = \pm \sqrt{35} \Rightarrow x = 6 \pm \sqrt{35}$$

$$x^2 - 10x + 1 = 0 \Rightarrow (x-5)^2 = 24 \Rightarrow x = 5 \pm \sqrt{24}$$

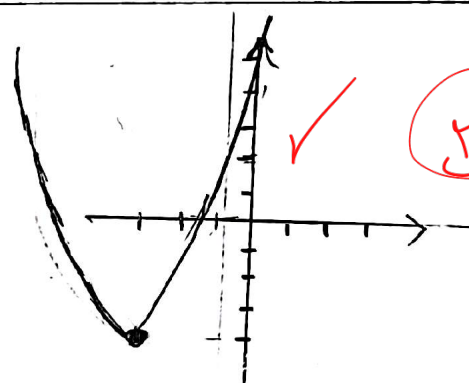
الف $-3x^2 + 5x - 1 = 0 \Rightarrow \Delta = b^2 - 4ac = 25 - 12 = 13 \Rightarrow$ ریشه دارد ✓
 ب $2x^2 - x + 2 = 0 \Rightarrow \Delta = b^2 - 4ac = 1 - 16 = -15 \Rightarrow$ ریشه ندارد ✓
 ج $2x^2 - 4x + 2 = 0 \Rightarrow \Delta = b^2 - 4ac = 16 - 16 = 0 \Rightarrow$ یک ریشه مضاعف ✓
 د $2x^2 - x + 1 = 0 \Rightarrow \Delta = b^2 - 4ac = 1 - 8 = -7 \Rightarrow$ ریشه ندارد ✓

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الف $2x^2 - 2x + a = 0 \Rightarrow \Delta \geq 0 \Rightarrow b^2 - 4ac \geq 0 \Rightarrow 4 - 4a \geq 0$
 $\rightarrow -4 \geq -4a \rightarrow a \leq +1$ ✓
 ب $\Delta = 0 \Rightarrow b^2 - 4ac = 0 \Rightarrow 4 - 4a = 0 \Rightarrow a = +1$ ✓
 ج $\Delta < 0 \Rightarrow b^2 - 4ac < 0 \Rightarrow 4 - 4a < 0 \Rightarrow a > 1$ ✓
 د $\Delta \geq 0 \Rightarrow 4 - 4a \geq 0 \rightarrow a \leq 1$ ✓

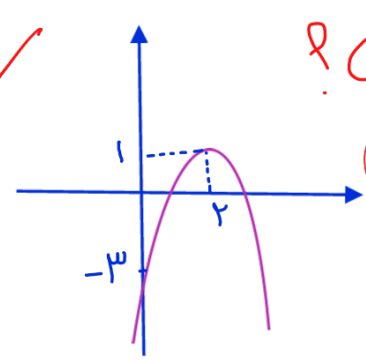
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$y = x^2 + 9x + 2$
 $\min \left| \frac{-b}{2a} = \frac{-9}{2} = -4.5 \rightarrow \min \left| \frac{-r}{-f} \right|$
 $\frac{-\Delta}{4a} = -f$ ✓



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$y = -x^2 + 4x - 5$
 $\max \left| \frac{-b}{2a} = \frac{-4}{-2} = 2 \rightarrow \max \left| \frac{-r}{-f} \right|$ ✓
 $\frac{-\Delta}{4a} = 1$
 محور ها را در نقاط اول و دوم قطع می کند ✓
 $a+b+c=0 \Rightarrow x=1$ و $\frac{c}{a}$



نسبت 2

(1.5)

$x^2 - 3x - 2 = 0$
 $S = -\frac{b}{a} = \frac{3}{1}$
 $P = \frac{c}{a} = \frac{-2}{1} = -2$

الف $S^2 - 2P = 9 - (-4) = 13$ ✓
 ب $S^2 - 2SP = 9 - (-12) = 21$ ✓

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