

19/1/5

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

الف)  $x^2 - 4x + 8 = 0 \Rightarrow x^2 - 4x + 9 = 1 \Rightarrow (x-2)^2 = 1 \rightarrow \sqrt{(x-2)^2} = \sqrt{1}$   
 $|x-2| = 1 \rightarrow x-2 = \pm 1 \rightarrow \begin{cases} x=3 \\ x=1 \end{cases}$  ✓

ب)  $x^2 + 11x + 17 = 0 \rightarrow x^2 + 11x + 14 = -9 \rightarrow (x+5)^2 = 9 \rightarrow \sqrt{(x+5)^2} = \sqrt{9}$   
 $|x+5| = 3 \rightarrow x+5 = \pm 3 \rightarrow \begin{cases} x=-1 \\ x=-8 \end{cases}$  ✓

الف)  $x^2 - 5x + 6 = 0 \rightarrow (x-2)(x-3) = 0 \rightarrow \begin{cases} x-2=0 \rightarrow x=2 \\ x-3=0 \rightarrow x=3 \end{cases}$  ✓

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

الف)  $x^2 - 3x - 5 = 0 \rightarrow x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{3 \pm \sqrt{9+20}}{2} = \frac{3 \pm \sqrt{29}}{2}$  ✓

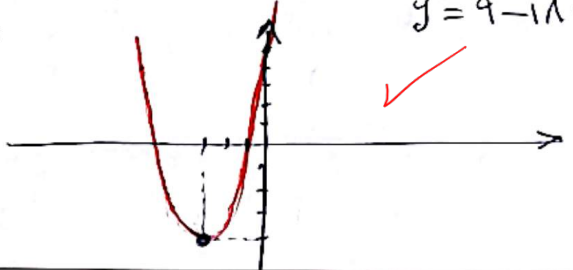
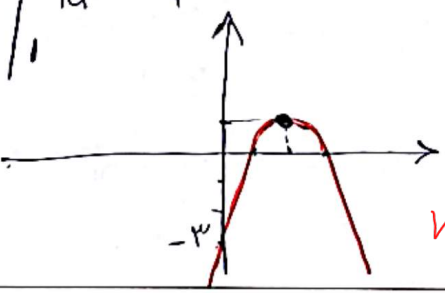
ب)  $2x^2 - 5x + \frac{1}{2} = 0 \rightarrow x = \frac{5 \pm \sqrt{25-2}}{4} = \frac{5 \pm \sqrt{23}}{4} = \frac{1}{4}(5 \pm \sqrt{23})$   
 $\begin{cases} x_1 = \frac{5+\sqrt{23}}{4} \\ x_2 = \frac{5-\sqrt{23}}{4} \end{cases}$

الف)  $x^2 - 3x + 2 = 0 \rightarrow (x-1)(x-2) = 0 \rightarrow \begin{cases} x-1=0 \rightarrow x=1 \\ x-2=0 \rightarrow x=2 \end{cases}$  ✓

ب)  $4x^2 + x - 3 = 0 \rightarrow x = \frac{-1 \pm \sqrt{1+48}}{8} = \frac{-1 \pm 7}{8} \rightarrow \begin{cases} x=\frac{3}{2} \\ x=-1 \end{cases}$  ✓

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

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

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| <p>الف) <math>\Delta = b^2 - 4ac \rightarrow \Delta = 25 - 12 = 13 &gt; 0 \rightarrow \checkmark</math> ٻه مختلف حقيقي ريشه</p> <p>ب) <math>\Delta = 1 - 14 = -13 &lt; 0 \rightarrow \checkmark</math> ٻه مختلف حقيقي ريشه ناهن</p> <p>ج) <math>\Delta = 14 - 14 = 0 \rightarrow \checkmark</math> هڪ ريشه صفا نصف دار</p> <p>د) <math>\Delta = 1 - 18 = -17 &lt; 0 \rightarrow \checkmark</math> ٻه مختلف حقيقي ريشه ناهن</p>                                                                                                                                                                                 | <p>۶</p>  |
| <p>الف) <math>\Delta &gt; 0 \rightarrow b^2 - 4ac &gt; 0 \rightarrow 9 - 18a &gt; 0 \rightarrow 9 &gt; 18a \rightarrow \frac{9}{18} &gt; a \rightarrow \frac{1}{2} &gt; a \checkmark</math></p> <p>ب) <math>\Delta = 0 \rightarrow b^2 - 4ac = 0 \rightarrow 9 - 18a = 0 \rightarrow 9 = 18a \rightarrow a = \frac{9}{18} = \frac{1}{2} \checkmark</math></p> <p>ج) <math>\Delta &lt; 0 \rightarrow 9 - 18a &lt; 0 \rightarrow 9 &lt; 18a \rightarrow \frac{9}{18} &lt; a \rightarrow \frac{1}{2} &lt; a \checkmark</math></p> <p>د) <math>\Delta &gt; 0 \rightarrow \frac{9}{18} &gt; a \checkmark</math></p> | <p>۷</p>  |
| <p>الف) <math>\min \left  \frac{-b}{2a} = \frac{-4}{2} = -2 \right </math>      <math>y = x^2 + 4x + 5</math><br/> <math>y = 9 - 18 + 5 = -4 \checkmark</math></p> <p>ب) </p>                                                                                                                                                                                                                                                                                                                                               | <p>۸</p>  |
| <p>الف) <math>\max \left  \frac{-b}{2a} = \frac{-4}{-2} = 2 \right </math>      <math>y = -x^2 + 4x - 3</math><br/> <math>y = -4 + 16 - 3 = 9 \checkmark</math></p> <p>ب) <math>y = 0 \rightarrow -x^2 + 4x - 3 = 0</math><br/> <math>\begin{cases} x = 1 \\ x = \frac{c}{a} = 3 \end{cases} \checkmark</math></p> <p></p>                                                                                                                                                                                                  | <p>۹</p>  |
| <p><math>x^2 - 3x - 2 = 0</math>      <math>S = \frac{-b}{a} = 3</math> ,      <math>P = \frac{c}{a} = -2</math></p> <p>الف) <math>S^2 - 2P = 9 + 4 = 13 \checkmark</math></p> <p>ب) <math>S^3 - 3SP = 27 + 12 = 39 \checkmark</math></p>                                                                                                                                                                                                                                                                                                                                                                      | <p>۱۰</p> |