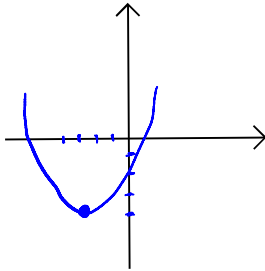
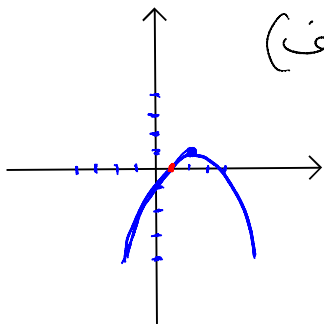


|   |                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ۱ | <p>(ب)</p> <p><math>ext \left  \begin{array}{l} -3 \\ \downarrow \\ -4 \end{array} \right.</math></p> <p><math>a &gt; 0 \Rightarrow \text{Min}</math></p>  <p>(الف)</p>                                                                                                                                                             |
| ۲ | <p>(ب)</p> <p><math>-x^2 + 9x - 3 = 0</math></p> <p><math>a + b + c = 0</math></p> <p><math>\Rightarrow</math> ریشه <math>\begin{array}{l} 1 \\ 2 \end{array}</math></p>  <p>(الف)</p> <p><math>ext \left  \begin{array}{l} 2 \\ \downarrow \\ 1 \end{array} \right.</math></p> <p><math>a &lt; 0 \Rightarrow \text{Max}</math></p> |
| ۳ | <p>(الف) <math>\Delta &gt; 0 \Rightarrow 9 - (4 \times 2 \times a) \Rightarrow a &gt; \frac{9}{8}</math></p> <p>(ب) <math>\Delta = 0 \Rightarrow a = \frac{9}{8}</math></p> <p>(ج) <math>\Delta &lt; 0 \Rightarrow a &lt; \frac{9}{8}</math></p> <p>(د) <math>\Delta &gt; 0 \Rightarrow a \geq \frac{9}{8}</math></p>                                                                                                |
| ۴ | <p>(الف) <math>x^2 - 2x + 1 = 2 \Rightarrow (x-1)^2 = 2 \Rightarrow x-1 = \sqrt{2} \Rightarrow x = \begin{cases} 1+\sqrt{2} \\ 1-\sqrt{2} \end{cases}</math></p> <p>(ب) <math>x^2 - x + 0.25 = 1.25 \Rightarrow (x-0.5)^2 = 1.25 \Rightarrow x-0.5 = \sqrt{1.25} \Rightarrow x = \begin{cases} 0.5 + \sqrt{1.25} \\ 0.5 - \sqrt{1.25} \end{cases}</math></p>                                                         |
| ۵ | <p>(الف) <math>\Delta = 4 + 4 = 8 \quad x = \frac{2 \pm \sqrt{8}}{2} = \frac{2 \pm 2\sqrt{2}}{2} = \frac{2(1 \pm \sqrt{2})}{2} = \begin{cases} 1+\sqrt{2} \\ 1-\sqrt{2} \end{cases}</math></p> <p>(ب) <math>\Delta = 1 + 16 = 17 \Rightarrow x = \frac{-1 \pm \sqrt{17}}{2} = \begin{cases} \frac{\sqrt{17}}{2} - 0.5 \\ -0.5 - \frac{\sqrt{17}}{2} \end{cases}</math></p>                                           |

$$\text{الف) } (x-4)(x-7) = 0 \Rightarrow x = \begin{cases} 7 \\ 4 \end{cases}$$

$$\text{ب) } (x+7)(x-4) = 0 \Rightarrow x = \begin{cases} 4 \\ -7 \end{cases}$$

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$$\text{الف) } x^2 - 14x + 49 = 0 \rightarrow (x-7)(x-7) = 0 \Rightarrow 2x = \begin{cases} 7 \\ 7 \end{cases} \Rightarrow x = \begin{cases} 7 \\ 7 \end{cases}$$

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

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$$\text{الف) } \Delta = 25 - 24 = 1 \Rightarrow x = \frac{\Delta \pm 1}{4} = \begin{cases} 1 \\ 1,5 \end{cases}$$

$$\text{ب) } \Delta = 25 - 24 = 1 \Rightarrow x = \frac{-\Delta \pm 1}{4} = \begin{cases} -1,5 \\ -1 \end{cases}$$

$$\text{ج) } \Delta = 25 - 16 = 9 \Rightarrow x = \frac{\Delta \pm \sqrt{9}}{4} = \begin{cases} \frac{25+3}{4} \\ \frac{25-3}{4} \end{cases}$$

$$\text{د) } \Delta = 49 - 144 \rightarrow \Delta < 0 \Rightarrow \text{ریشه ندارد}$$

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$$\Delta = 9 + 16 = 25 \Rightarrow x = \frac{3 \pm \sqrt{25}}{2} \rightarrow x = \begin{cases} \frac{3+5}{2} \\ \frac{3-5}{2} \end{cases}$$

$$S = \frac{9}{2} = 4,5$$

$$P = \frac{9-25}{2} = -8$$

$$\text{الف) } 9 + 16 = 25$$

$$\text{ب) } 25 + 36 = 61$$

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$$\text{ب) } \frac{9 \times 16 \times 7}{41} + \frac{16 \times 7}{41} = 59\%$$

$$\text{الف) } \frac{7 \times 5 \times 8 \times 12 \times 3}{21} + \frac{9 \times 1}{11} = 259\%$$

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