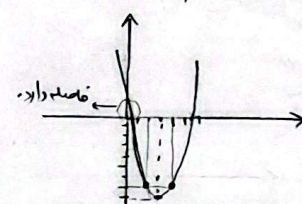
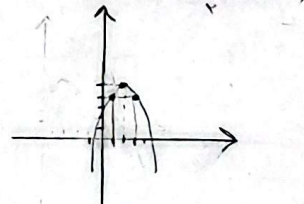
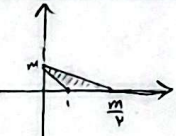


<p>الف) <math>y = 2x^2 - 4x + 1</math></p> <p>راس <math>x = \frac{-b}{2a} = \frac{4}{4} = 1</math> ext <math>\left  \begin{matrix} 1 \\ -1 \end{matrix} \right.</math></p> <p>راس <math>y = 2 - 4 + 1 = -1</math> <math>a &gt; 0</math></p> <p>min</p>	<p>ب) <math>y = -x^2 + 3x - 5</math></p> <p>راس <math>x = \frac{-b}{2a} = \frac{-3}{-2} = \frac{3}{2}</math> ext <math>\left  \begin{matrix} \frac{3}{2} \\ -\frac{11}{4} \end{matrix} \right.</math></p> <p>راس <math>y = -2 \times \frac{9}{4} + 3 \times \frac{3}{2} - 5</math> <math>a &lt; 0</math></p> <p>Max <math>-\frac{9}{2} + \frac{9}{2} - 5 = \frac{-10 - 10}{2} = -\frac{20}{2} = -10</math></p>	<p>1</p>
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<p>الف) <math>y = x^2 - 9x + 1</math> <math>\frac{-b}{2a} = \frac{9}{2} = 4.5</math> <math>9 - 18 + 1 = -8</math></p> <p><math>\Delta = b^2 - 4ac = 81 - 4 = 77</math> <math>\sqrt{77} = 8.77</math></p> <p><math>\frac{9 \pm 8.77}{2} = 8.885, 0.115</math></p> 	<p>ب) <math>y = -x^2 + 7x + 1</math> <math>\frac{-b}{2a} = \frac{-7}{-2} = 3.5</math> <math>-4 + 12 + 1 = 9</math></p> <p><math>\Delta = b^2 - 4ac = 49 - 4 = 45</math> <math>\sqrt{45} = 6.71</math></p> <p><math>\frac{7 \pm 6.71}{2} = 6.855, 0.145</math></p> 	<p>2</p>
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<p><math>S = a + b = 1 \rightarrow x^2 - 5x + p = 0</math></p> <p><math>P = ab = -2 \rightarrow x^2 - 2x - 2 = 0</math></p> <p><math>Kx^2 + Kx - 9x - 1 = x^2 - 2x - 1</math></p> <p><math>Kx^2 + (K-1)x - 1 = 0 \rightarrow Kx^2 + (K-1)x - 1 = x^2 - 2x - 1</math></p> <p><math>Kx^2 + Kx - 4 = 0</math></p> <p><math>Kx^2 + Kx - 4 = x^2 - 2x - 1</math></p> <p><math>2x^2 + (K+1)x - 3 = 0</math></p> <p><math>2x^2 + (K+1)x - 3 = x^2 - 2x - 1</math></p> <p><math>\rightarrow x^2 + (K+3)x - 2 = 0</math></p> <p><math>K+3 = -1 \rightarrow K = -4</math> <math>\rightarrow x^2 - x - 2 = x^2 + (-4+3)x - 2</math></p>	<p>3</p>
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<p><math>\alpha - \beta = \frac{\sqrt{a}}{ a }</math> <math>x^2 - 13x + m \rightarrow \alpha\beta = m</math></p> <p><math>\alpha + \beta = 13m</math></p> <p><math>(\sqrt{a} - \sqrt{b})^2 = 1 \rightarrow \alpha + \beta - 2\sqrt{\alpha\beta} = 1</math></p> <p><math>13m - 2\sqrt{m} = 1 \rightarrow \sqrt{m} = t \rightarrow 13t^2 - 2t - 1 = 0 \rightarrow t^2 - 2t - 1 = 0 \rightarrow (t-3)(t+1)</math></p> <p><math>\sqrt{m} = 1 \rightarrow m = 1</math></p> <p><math>13x^2 - mx - m \rightarrow 13x^2 - x - 1 = 0 \rightarrow \frac{c}{a} = \frac{-1}{13}</math></p>	<p>4</p>
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<p><math>y = px^2 - (m+p)x + m</math></p> <p><math>a+b+c=0 \rightarrow x=1, x = \frac{m}{p}</math></p>  <p><math>\frac{m \times (\frac{m}{p} - 1)}{p} = \frac{m \times (m-p)}{p^2} = \frac{m^2 - pm}{p^2} = \frac{m}{p}</math></p> <p><math>m^2 - pm = p^2 \rightarrow m^2 - pm - p^2 = 0 \rightarrow (m-p)(m+p) = 0</math></p> <p><math>\{m=p \quad \sqrt{m}=-1</math></p> <p><math>y = x^2 - mx + 1 \rightarrow x^2 - 13x + 1 \rightarrow \frac{-b}{2a} = \frac{13}{2}</math></p> <p><math>\rightarrow x^2 + x + 1 \rightarrow \frac{-b}{2a} = \frac{-1}{2}</math></p>	<p>5</p>
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$$y = ax^p + px + a$$

$$\frac{-\Delta}{fa} = \frac{-b^p + pa^q}{fa} = \frac{V}{\lambda} \rightarrow \frac{-9 + pa^p}{fa} = \frac{V}{\lambda} \rightarrow \lambda(-9 + pa^p) = pa$$

$$a > 0$$

$$\begin{aligned} -9\lambda + pa^p &= pa \\ pa^p - pa - 9\lambda &= 0 \\ pa^p - pa - 9\lambda &= 0 \end{aligned}$$

$$\Delta = b^p - fac = 9 + 9V = 9V$$

$$x = \frac{-b \pm \sqrt{\Delta}}{pa} = \frac{V \pm pa}{14} = \left[ \frac{V}{14} - \frac{11}{14} \right]$$

6

$$x^p - (a+1)x + a = 0 \rightarrow \frac{c}{a} = \frac{a}{1} = [p]$$

$$a - B = p \rightarrow \frac{\sqrt{\Delta}}{|a|} = \frac{\sqrt{(a+1)^p - fa}}{1} = \sqrt{a^p + 1 + pa - fa} = \sqrt{a^p - pa + 1} = \sqrt{(a-1)^p} = |a-1|$$

$$x^p - (p+1)x + b = 0$$

$$|a-1| - a - 1 = p \rightarrow a - 1 = p$$

$$x^p - 10x + b = 0$$

$$a - B = p \rightarrow \frac{\sqrt{\Delta}}{|a|} = \frac{\sqrt{100 - fb}}{1} = p \rightarrow \sqrt{100 - fb} = \sqrt{p} \rightarrow 100 - fb = p$$

$$\frac{c}{a} = \frac{b}{1} = [p]$$

$$p - p = [p]$$

7

$$y = -ax^p + ax + p \rightarrow y = 11x^p - 11x + p$$

$$x = \frac{-b}{pa} = \frac{-a}{-a} = \frac{1}{p}$$

$$y = -a \times \frac{1}{p} + \frac{1}{p} a + p = \frac{-a + a + p}{p} = \frac{a + p}{p}$$

$$y = pbx^p - bx - 1$$

$$x = \frac{-b}{pa} = \frac{-b}{pb} = \frac{1}{p}$$

$$y = pb \times \frac{1}{p} - \frac{1}{p} b - 1 = \frac{b - pb - p}{p} = \frac{-b - p}{p}$$

$$\frac{-b - p}{p} = 11 \times \frac{1}{14} - \frac{11}{14} + p^{-1}$$

$$\frac{-b - p}{p} = \frac{11}{14} - \frac{11}{14} \rightarrow \frac{-b - p}{p} = -\frac{1}{14} \rightarrow -p(-b - p) = \lambda$$

$$\frac{a + p}{p} = pb \times \frac{1}{p} - b \times \frac{1}{p} - 1 + \frac{a + p}{p} = -\frac{1}{p} \rightarrow \frac{a + p}{p} = -\frac{1}{p}$$

$$b - a = -4 + 11 = [9]$$

9

$$y = \alpha a x^p + Fx + \beta$$

$$\frac{c}{a} = \frac{\beta}{pa} = \alpha \beta \rightarrow pa\alpha^p = 1 \rightarrow \alpha = \pm \frac{1}{a}$$

$$\frac{-b}{a} = \frac{-F}{pa} = \alpha + \beta \rightarrow \alpha = \frac{1}{a} \rightarrow \frac{-F}{a} + \beta = -\frac{a}{a} = -1$$

$$-\alpha x^p + Fx + 1$$

$$u(x) = \frac{b}{pa} = \frac{-F}{10} = \frac{F}{10} = 9 \rightarrow u(x) = -a \times \frac{14}{100} + F \times \frac{F}{10} + 1 = \frac{-10 + 149 + 100}{100} = \frac{149}{100} = 1.49$$

10

$$a + b = \frac{-b}{a} = a^p + b^p - 11$$

$$ab = a + b - 1$$

$$ab = a^p + b^p - 11$$

$$ab = (a + b)^p - 11ab - 11$$

$$(a + b)^p - 11ab - 11 = 0$$

$$(a + b)^p - 11(a + b - 1) - 11 = 0$$

$$a + b = t \rightarrow t^p - 11(t - 1) - 11 = 0 \rightarrow t^p - 11t + 10 = 0$$

$$(t - 1)(t + 10) = 0$$

$$t = 1 \text{ or } t = -10$$