

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

$$\Delta = 1 \rightarrow -\frac{b}{2a} = \frac{-1}{2(a-1)} = 1 \rightarrow -1 = 2a - 2 \rightarrow a = \frac{1}{2}$$

$$y=0 \rightarrow -\frac{1}{2}x^2 + x + 3 = 0 \rightarrow x^2 - 2x - 6 = 0 \rightarrow (x-9)(x+2) = 0 \rightarrow x=9 \checkmark$$

$$y = mx^2 - 2x + m$$

$$\Delta = 4 > 0 \rightarrow 4 + (-4)(m) > 0 \rightarrow 4 > 4m \rightarrow m < 1$$

$$\alpha = \frac{1+\sqrt{a}}{2}$$

$$\beta = \frac{1-\sqrt{a}}{2} \rightarrow \alpha + \beta = 1 \rightarrow \frac{1}{2} = \frac{1}{2} \rightarrow \frac{1}{2} = \frac{1}{2}$$

$$x^2 - 2x + m + 1 = 0 \rightarrow 4 + (-4)(m+1) > 0 \rightarrow 4 - 4m - 4 > 0 \rightarrow -4m > 0 \rightarrow m < 0$$

$$\alpha + \beta = 1 \rightarrow \alpha + (\alpha + \beta) = 1 \rightarrow 2\alpha = 1 \rightarrow \alpha = \frac{1}{2}$$

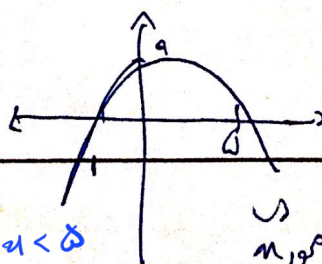
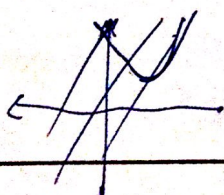
$$5 - 2p = 14 + (-1)(m+1) = 12 - m \rightarrow m = 7$$

$$m = 7$$

$$a(n-1)^2 + 9 = a(n^2 - 2n + 1) + 9$$

$$a(n^2 - 2n + 1) + 9 = 0 \rightarrow a = -1$$

$$c = 9$$



$$-(n-1)^2 + 9 = 0 \rightarrow -1 < a < 0$$

$$n_1, n_2 = (0, 9)$$

$$\alpha n^r - Vx + 9\beta = 0 \rightarrow \alpha \cdot \beta = 9 \cdot \frac{\beta}{\alpha} \rightarrow \alpha = 9 \quad \alpha = \pm r$$

$$\alpha + \beta = -V$$

$$\beta = -14$$

$$\alpha + \beta = \frac{V}{\alpha}$$

$$\alpha = r \quad \beta = -\frac{r}{r} V$$

$$\alpha = -r \quad \beta = \frac{r}{r} V$$

$$\frac{1}{\alpha} + \frac{1}{\beta} = \frac{1}{\alpha} - \frac{1}{14} \Rightarrow \frac{14 - \alpha}{14\alpha} = \frac{V}{14\alpha}$$

$$\frac{V}{14\alpha}$$

$$x^r + mx - rm = 0 \rightarrow \alpha^r = rm - m\alpha$$

$$\Delta \rightarrow m^r + 14m > 0$$

$$x^r + rx - \varepsilon = 0$$

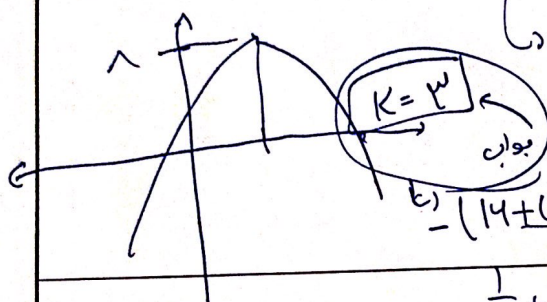
$$\alpha^r - m\beta = 1$$

$$rm - m\alpha - m\beta = 1 \rightarrow rm + m^r = 1$$

$$-m(\alpha + \beta) - \frac{b}{a} \rightarrow -m$$

$$m^r + rm - 1 = 0$$

$$f(x) = mx^r + \varepsilon x + \frac{m}{r} + V \rightarrow \frac{b}{\varepsilon a} = \left(\frac{-\varepsilon}{rm} \right)$$

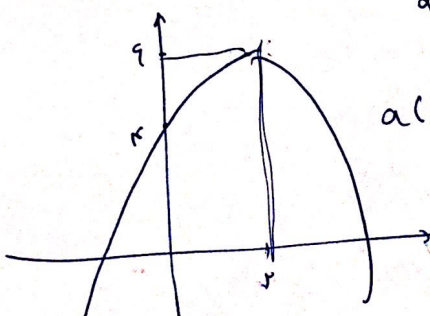


$$mx^r + \varepsilon x + \frac{m}{r} - 1 = 0$$

$$rmx + \varepsilon x + m = 1$$

$$-(14 + (-\varepsilon)(m)) \left(\frac{m}{\varepsilon} + V \right) = -(14 - rm - rm) = 14 - 2rm$$

$$\frac{1}{\alpha} + \frac{1}{\beta} = 9 \rightarrow \frac{\alpha + \beta}{\alpha\beta} = \frac{r}{-r} = -\frac{b}{a} = -\varepsilon$$



$$a(n-r)^r + 4$$

$$a(n-r)(m+\varepsilon) + 4$$

$$a\varepsilon + 4 = 0$$

$$\alpha^r - \varepsilon n - 1 \rightarrow \frac{1}{\alpha} + \frac{1}{\beta} = -1$$

$$x^r - (ra+r)x + (ra^r + 4a + r) \rightarrow x^r - rx + 1 = 0$$

$$r - r(\varepsilon a + \varepsilon) + (ra^r + 4a + r) = 0$$

$$r - ra - 1 + ra^r + 4a + r = 0$$

$$ra^r - ra - 1 = 0 \rightarrow a^r - a - 1 = 0$$

$$a^r - a - 1 = 0 \rightarrow a^r - a - 1 = 0$$

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