

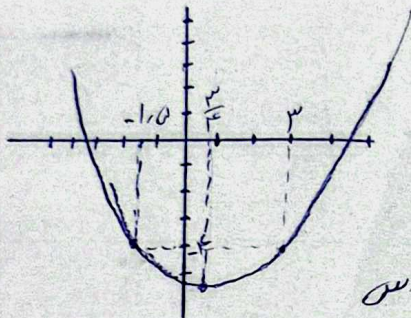
$$x^2 - 2x + 1 = 0 \Rightarrow x^2 = 2x - 1$$

$$x^4 + 1 = x^2(2x - 1) + 1 = 2x^3 - x^2 + 1$$

$$x^4 = x^2 \times x^2 = x^2(2x - 1) = 2x^3 - x^2$$

$$x^4 = x^2 \times x^2 = (2x - 1)^2 = 4x^2 - 4x + 1 = 1.0x^2 - 4x + 1$$

$$x^4 - 4x^2 + 4x + 1 = ? \quad x^2 = 2x - 1 \Rightarrow 19(2x - 1) \mid \frac{95(2x - 1)}{2x - 1} = \frac{(2x - 1) \times 19}{2x - 1} = 19$$



$$\frac{3 + (-1/2)}{2} = \frac{5}{4}$$

$$s = \frac{-b}{a} = \frac{5}{4}$$

$$x = \frac{5}{4} = \frac{-b}{2a} \Rightarrow \frac{-b}{a} = \frac{5}{2}$$

$$x^2 + 1 < x + 0 = 0 \quad x - 1 = \sqrt{(x+1)^2 - 4x} = \sqrt{(x-1)^2 - 4x} = \sqrt{4x^2 - 2x}$$

$$\Delta x = \frac{1}{4} <$$

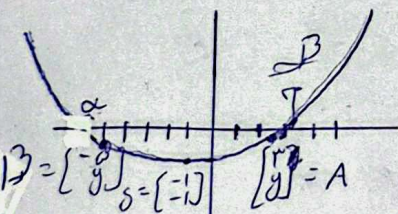
$$\sqrt{4x^2 - 2x} = \frac{1}{4} <$$

$$4x^2 - 2x = \frac{1}{16} <$$

$$\frac{1}{9} < x < \frac{1}{9}$$

$$x = \frac{1}{9}$$

$$\frac{1}{9} = \frac{1}{9}$$



$$\frac{x+1}{2} = \frac{-1+3}{2} = 1$$

$$x+1 = -1 \Rightarrow x = -2$$

$$x^2 + 1 = 0 \mid (x+1)^2 - 2x = 0$$

$$x = -\frac{1}{2}$$

$$y = a(x^2 + 2x + \frac{1}{4}) \Rightarrow 1 = a(1 + 2 + \frac{1}{4}) \Rightarrow a = \frac{4}{7} \quad y = \frac{4}{7}(x^2 + 2x + \frac{1}{4}) \Rightarrow y = \frac{1}{7}$$

$$-x^2 + 2x + m = 0 \Rightarrow x^2 - 2x - m = 0 \quad -4 \leq m \leq -3$$

$$x < \frac{9}{4}, \quad y < \frac{9}{4} \quad f(\frac{9}{4}) > 0 \quad \Delta = 20 + 4m > 0 \Rightarrow m > -5$$

$$f(\frac{9}{4}) = (\frac{9}{4})^2 - 2(\frac{9}{4}) - m = \frac{81}{16} - \frac{18}{4} - m = -\frac{9}{4} - m$$

$$-\frac{9}{4} - m > 0 \quad m < -\frac{9}{4} \quad m \leq -3$$

$$m > 0, y_{min} = -\frac{\Delta}{r} = r \Rightarrow -\frac{144 - 4m(m-1)}{4m} \Rightarrow \frac{r \cdot m^2 - 4m - 144}{4m} \Rightarrow \frac{4m^2 - m - 144}{4m} = r$$

$$\Rightarrow \frac{4m^2 - m - 144}{m} = r \Rightarrow 4m^2 - 144 - m = rm$$

$$4m^2 - m - 144 = 0 \Rightarrow m = \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{1 \pm \sqrt{9 - 4(4)(-144)}}{2 \cdot 4} = \frac{1 \pm \sqrt{577}}{8} = \frac{1 \pm 24}{8}$$

$$m = 3$$

$$\cancel{m = -14}$$

$$x = \frac{-b}{2a} = \frac{1}{4m} = \frac{1}{12}$$

α, a, β

$$x^2 + r(a+1)x + (ra-1) = 0$$

$$\alpha^2 = \alpha + \beta$$

$$\alpha^2 = ra - 1$$

$$\alpha\beta = ra - 1$$

$$\alpha^2 - ra + 1 = 0$$

$$a = 1$$

$$x = \frac{1 \pm \sqrt{1 + 4r}}{2}$$

$$x = \pm \sqrt{\frac{1 \pm \sqrt{1 + 4r}}{2}}$$

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 $\delta = 0$

$$r = -\frac{1 \pm \sqrt{1 + 4r}}{2}$$

$$2r^2 - 3\delta r + 2\delta = 2x \cdot \frac{1 + 4r + 1 \pm \sqrt{1 + 4r}}{2} = (1 + 4r + 1 \pm \sqrt{1 + 4r})$$

$$y = kx^2 - rx - 6$$

$$y_v = k\left(\frac{r}{k}\right)^2 - r\left(\frac{r}{k}\right) - 6 = \frac{r^2}{k} - \frac{r^2}{k} - 6 = -6$$

$$y = -rx - 6$$

$$-\frac{r}{k} - 6 = -r\left(\frac{r}{k}\right) - 6 = -\frac{r^2}{k} - 6$$

$$x_v = -\frac{b}{2a} = \frac{r}{2k} = \frac{r}{k}$$

$$\frac{r}{k} = r \quad k = 1$$

$$y_v = -\frac{r}{1} - 6 = -r - 6 = -1$$

$$y = -mx^2 + mx + 1$$

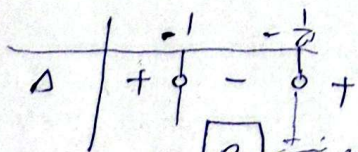
$$y = -m - x$$

$$-mx^2 + (m+1)x + m + 1 = 0$$

$$\Delta < 0$$

$$(m+1)^2 + 4m(m+1) < 0$$

$$(m+1)(5m+1) < 0$$



بین حش یک و منس یک پنجم هیچ عدد صحیح نیست