

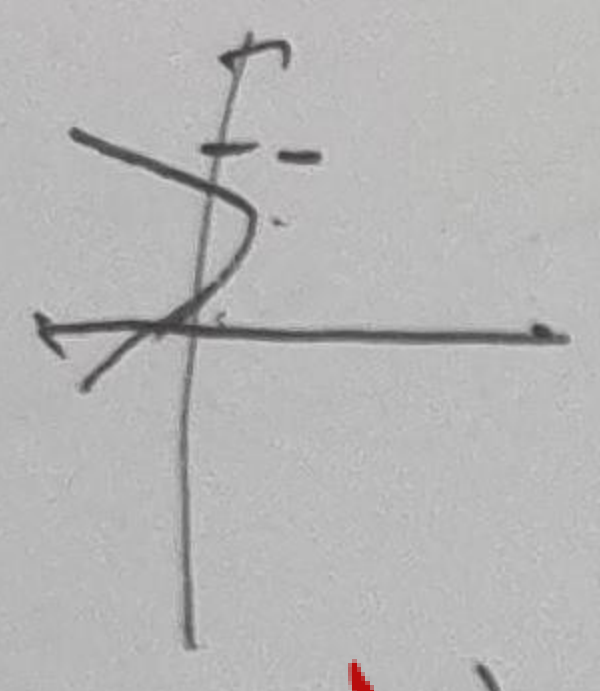
10, 100

11, 100

$$y = 3x^2 - 2x$$

$$x_s = -\frac{b}{2a} = -\frac{2}{6} = -\frac{1}{3}$$

$$y_s = \frac{4ac - b^2}{4a} = \frac{4(3)(0) - 4}{12} = -\frac{1}{3}$$

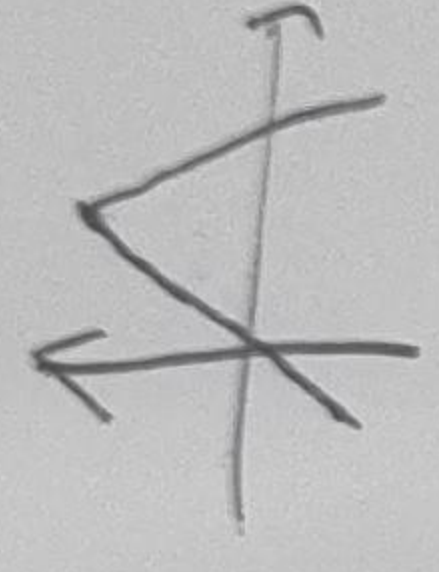


از نصاب 3

$$y = -x^2 + 4x$$

$$x_s = -\frac{4}{-2} = 2$$

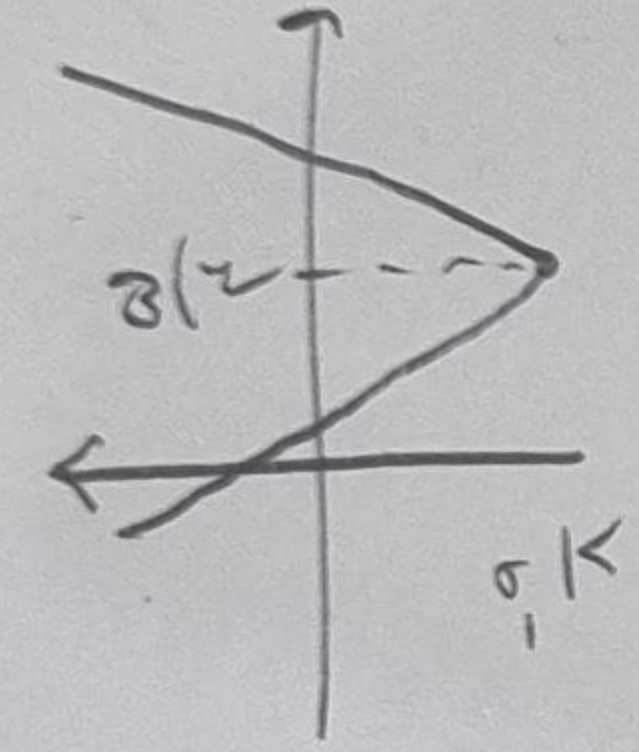
$$y_s = -4 + 16 = 12$$



$$y = 2x^2 - 5x + 2$$

$$x_s = \frac{5}{4}$$

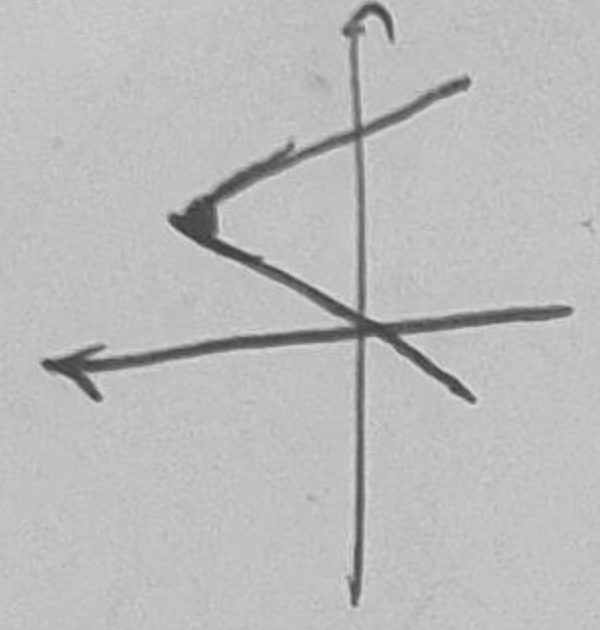
$$y_s = \frac{19 - 25}{8} = -\frac{3}{4}$$



$$y = -x^2 + 4x - 1$$

$$x_s = -\frac{4}{-2} = 2$$

$$y_s = -4 + 8 - 1 = 3$$



$$\text{الف, } \frac{\frac{b}{a}}{\frac{5\Delta}{161}} = \frac{1}{\sqrt{13}}$$

$$\text{ب, } \frac{1}{5\sqrt{13}} = \frac{1}{\sqrt{13}}$$

$$s^2 p = \left(-\frac{b}{a}\right)^2 - 2\left(\frac{c}{a}\right) = \left(-\frac{2}{3}\right)^2 - 2\left(-\frac{1}{3}\right) = \frac{4}{9} + \frac{2}{3} = \frac{10}{9}$$

$$\text{ج, } \alpha^3 + \beta^3 = s^3 - 3s\alpha\beta = \left(\frac{1}{3}\right)^3 - 3\left(\frac{1}{3}\right)(1)(-3) = \frac{1}{27} + 3 = \frac{80}{27}$$

$$\alpha^3 - \beta^3 = (\alpha - \beta)(\alpha^2 + \alpha\beta + \beta^2) = \left(\frac{1}{3} - (-3)\right)\left(\frac{1}{9} + \frac{1}{3} + 9\right) = \frac{10}{3} \cdot \frac{31}{3} = \frac{310}{9}$$

$$x = 2, \Delta = 0 \rightarrow a^2 - 4a < 0 \rightarrow a(a - 4) < 0 \rightarrow 0 < a < 4$$

$$c^2 - 2a + a = 0 \rightarrow a = c = 2 \rightarrow a \in (0, 4]$$

$$\alpha + \beta = \frac{12}{3} = 4$$

$$c \beta = 4 - \alpha$$

$$\alpha + \beta = -\frac{7}{4}$$

$$2\alpha^2 + (4 - \alpha)^2 - 4\alpha - \frac{7}{4} = 0$$

$$2\alpha^2 - 12\alpha + 9 = 0 \rightarrow \alpha^2 - 6\alpha + \frac{9}{2} = 0$$

$$\alpha = \frac{6 \pm \sqrt{36 - 18}}{2} = \frac{6 \pm \sqrt{18}}{2} = \frac{6 \pm 3\sqrt{2}}{2} = 3 \pm \frac{3\sqrt{2}}{2}$$

$$\alpha + \beta = 2 \rightarrow a = -9 - \frac{9}{4} = -\frac{45}{4}$$

$$\frac{3}{4} = 1, \frac{9}{4} = 3$$

$$\text{د, } \beta = 3$$

$$\beta = 1$$

$$\beta = 1$$

