

14, 20

2. در صورتی که $a > 0$ و $b < 0$ و $c > 0$

الف) $y = x^2 - 2x + 1$

$a > 0$ min
 $x = 1 \rightarrow y = 0$

10

ex) $\begin{cases} x_s = -\frac{b}{2a} = \frac{2}{2} = 1 \\ y_s = 1 - 2 + 1 = 0 \end{cases}$

$x = 0 \rightarrow y = 1$

1, 20

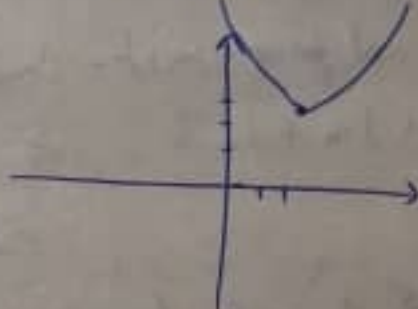
ب) $y = -x^2 + 2x - 1$

$a < 0$ max

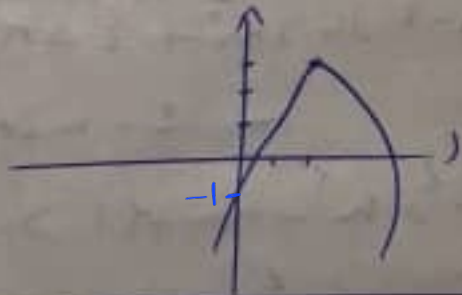
$x = 1 \rightarrow y = -1 + 2 - 1 = 0$

ex) $\begin{cases} x_s = -\frac{2}{-2} = 1 \\ y_s = -1 + 2 - 1 = 0 \end{cases}$

$x = 0, y = -1$



مقدار جزی الف:



مقدار جزی ب:

3. الف) $y = (x+1)^2 - 1(\frac{1}{2}x+2)$

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

$-1 < 0$

$(-\infty, -3) \cup (0, +\infty)$

$x^2 - 2x - 1 > 0$

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

$(x+3)(x-0) > 0$

$\frac{0}{2} = 0$

$x^2 + (x+1)x + \frac{1}{2}x + 2 = 0 \Rightarrow x^2 + \frac{3}{2}x + 2 = 0$

2

$x^2 - 2x - 1 = 0 \Rightarrow (x-0)(x+3) = 0$

$x = 0, -3$

سوال ۲: مجموعه دایره در آن

$$D < 0$$

سوال ۲: دایره

$$m^2 - 2m - 10 < 0$$

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

$$\begin{array}{c} -5 \quad 5 \\ + \quad - \quad + \\ \hline \end{array} \quad (-5, 5)$$

$$D \geq 0$$

$$m^2 - 2m - 10 \geq 0$$

$$\begin{array}{c} -5 \quad 5 \\ + \quad - \quad + \\ \hline \end{array}$$

(د) مجموعه دایره

$$(-\infty, -5] \cup [5, +\infty)$$

سوال ۳: الف) از متغیر - طریقی می توانیم

$$D = (m-2)2^2 - 2(m+1)2 + 1$$

$$D < 0 \quad P > 0$$

$$D > 0$$

$$D > 0 \Rightarrow (-2m-5)^2 - 4(m-2) - 4m^2 + 4 + 8m - 4(m+1) > 0$$

$$\Rightarrow 4m^2 - 44m + 16 > 0 \Rightarrow m^2 - 11m + 4 > 0$$

$$\Rightarrow \text{مجموعه دایره} \quad D < 0$$

$$\frac{2m+5}{m-2} < 0$$

$$\begin{array}{c} -1 \quad 2 \\ + \quad - \quad + \\ \hline \end{array}$$

$$\Rightarrow m \in (-1, 2) \quad I$$

$$P > 0$$

$$m \in (2, +\infty) \quad II$$

$$\frac{1}{m-2} > 0$$

$$I \cap II = \emptyset$$

نوع اول: $\alpha = 0$ و $\beta = 1$ و $\gamma = 1$

$$-\frac{b}{2a} = -1$$

نوع دوم: $\alpha = 1$ و $\beta = 0$ و $\gamma = 1$

$$\frac{r(n+1)}{r(n-1)} = -1$$

نوع سوم: $\alpha = 1$ و $\beta = 1$ و $\gamma = 0$

$$r(n+1) = 0$$

$$\frac{r(n+1)}{r(n-1)} = \frac{n+1}{n-1} = -1 \Rightarrow -r(n+1) = n+1$$

$$\Rightarrow r(n+1) = -n-1$$

نوع چهارم: $\alpha = 1$ و $\beta = 0$ و $\gamma = 0$

$$\frac{r(n+1)}{r(n-1)} - (r \sin \alpha) n + \frac{r}{r} = 0 \quad \Delta \geq 0$$

$$\frac{r}{r} n^2 - (r \sin \alpha) n + \frac{r}{r} = 0$$

$$\Rightarrow \sin^2 \alpha - \left(\frac{r}{r}\right) \left(\frac{r}{r}\right) = \sin^2 \alpha - 1 \geq 0$$

$$\sin^2 \alpha \geq 1 \quad \sin \alpha \geq 1$$

$$\sin \alpha = 1 \Rightarrow \sin \alpha = \pm 1$$

$$\sin \alpha = 1 \Rightarrow \frac{r}{r} n^2 - r n + \frac{r}{r} = 0 \quad \Delta = 1 - 1 = 0$$

$$n = \frac{r \pm \sqrt{0}}{\frac{r}{r}} = \left(\frac{r}{r}\right)$$

$$\sin \alpha = -1 \Rightarrow \frac{r}{r} n^2 + r n + \frac{r}{r} = 0 \quad \Delta = 1 - 1 = 0$$

$$\Rightarrow n = \frac{-r \pm \sqrt{0}}{\frac{r}{r}} = -1 \Rightarrow \overline{0} \overline{0} \overline{1}$$

$$\Delta = 0 \quad n = -2(1/1)$$

$$\boxed{n = +1} \quad \boxed{n = -1} \quad \leftarrow (n-1)(n+1) = 0$$

0123456789101112131415161718192021222324252627282930313233343536373839404142434445464748495051525354555657585960616263646566676869707172737475767778798081828384858687888990919293949596979899100

$$y = \frac{(x_1^2 - x_2^2 - 1)(x_2^2 - x_1 - 0)}{1 - x^2}$$

$$=, \frac{(2-1)(x_2+1)(x_2-0)(x+1)}{(1-3)(1+3)}$$

$$=) -x_1^2 + 1 \leq x_2 \leq 0 \quad \text{ext}$$

$$-\frac{0}{x_1} = \frac{-b^2 + 4ac}{4a}$$

$$=) \frac{-149 - 10}{-12} = \frac{159}{12}$$

$$mz^2 - (n+c)z - c = 0$$

$$S = \frac{(m+c)}{n}$$

$$p = \frac{-c}{n}$$

$$p\left(\frac{m+c}{n}\right) = 0\left(-\frac{c}{n}\right) + v$$

$$\frac{cm+c}{n} = \frac{-10}{n} + v$$

$$\frac{cm+c}{n} = \frac{-10 + vn}{n}$$

$$cm+c = vn-10$$

$$x^2 - 2x - 5 = 0$$

$$x = 1 \quad x = 5$$

$$\begin{aligned} & \alpha^2 + \beta^2 = 2 \\ & \alpha^2 + \beta^2 = 5 \end{aligned}$$

شماره
۱۰۰

$$2^c - 0.2 + 5 = 0$$

$$\frac{c \alpha + \beta^0}{0.05^c}$$

$$- + \beta = 0 \quad - - 0.05$$

$$- \beta = 5$$

$$\beta^c = 0.05 - c \frac{\chi^2}{0.05^c} \quad \beta^c = 0.05 - 1.$$

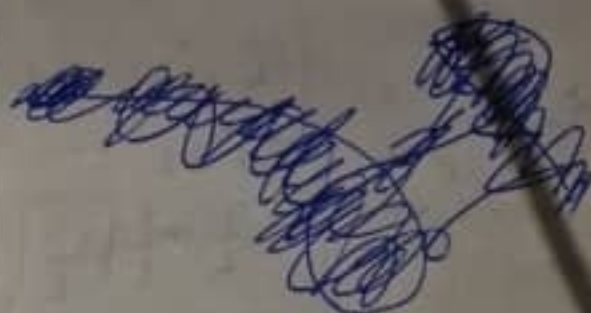
$$\beta^c = (0.05 - c) \beta^c = \beta^c = 0.05 \beta^c + 5 - 2 \cdot \beta = 1$$

$$1.05 \beta - 0.05 + 5 - 2 \cdot \beta = 1 \quad 1.05 \beta - 5.95 < \beta$$

$$\Rightarrow \beta^0 = 1.05 \beta^c - 5.95 \beta \Rightarrow 0.05 \beta - 5.95 \beta = 1.05 \beta - 5.95 \beta = \beta^0$$

$$\frac{5(0.05 - 1) + 5.95 \beta - 1.05}{0.05(0.05 - 1)} = \frac{5.95 - 5.95 \beta + 5.95 \beta - 1.05}{0.05 \beta - 1.05}$$

$$\Rightarrow \frac{5.95 - 1.05}{0.05 \beta - 1.05} = \frac{19(5.95 - 1.05)}{0.05 \beta - 1.05} = 19$$



$$y_1 = a \cdot 1^2 + b \cdot 1 + c$$

$$\hookrightarrow a \cdot 1^2 + b \cdot 1 + c$$

$$y_2 = 2 + 1 =$$

$$\hookrightarrow 2(2) + 1 = 5$$

$$2(-2) + 1 = -3$$

$$5a + 2b + c = 5$$

$$9a - 2b + c = 4$$

$$\begin{cases} 5a + b = 0 \\ 9a - b = 0 \end{cases}$$

$$0a = 0$$

$$a = 1$$

$$b = -5$$

$$c = -\frac{b}{5} = -\frac{-5}{5} = 1$$

$$y = x^2 + (n+1)x + n + 1$$

$$n = 2x^2 + (n+1)x + n + 1$$

$$2x^2 + nx + n + 1 = 0$$

$$\Delta = 0 \quad n^2 - 2(1)(n+1) = n^2 - 2n - 2 = 0$$

$$n = \frac{2 \pm \sqrt{4 + 8}}{2} = \frac{2 \pm \sqrt{12}}{2} = \frac{2 \pm 2\sqrt{3}}{2} = 1 \pm \sqrt{3}$$