

$$r \sin^2(\alpha + \frac{\pi}{r}) - 1 \rightsquigarrow R \sin^2: [0, 1] \rightsquigarrow R r \sin^2: [0, r] \rightsquigarrow Rf: [-1, 1]$$

17, 17.5

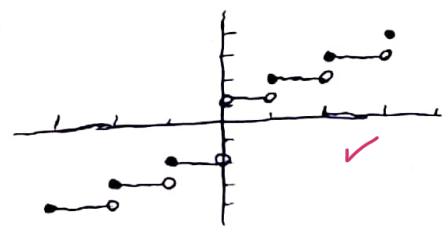
افزودن

1- الف

(2)

ب

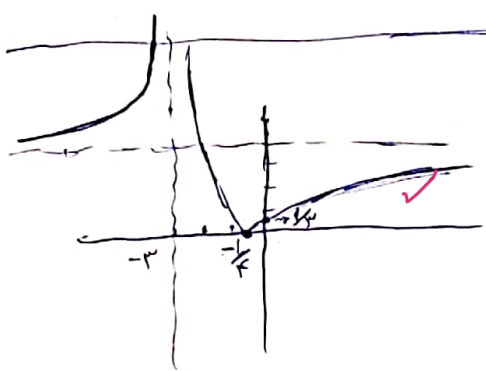
$$r \cos^2 \alpha - f \rightsquigarrow R \cos^2: [-1, 1] \rightsquigarrow R r \cos^2: [-r, r] \rightsquigarrow Rf: [-r, r]$$



$x \neq 0$

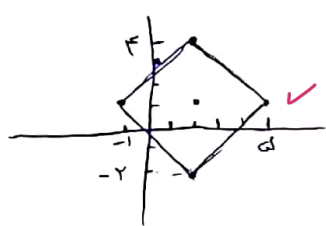
$$x \in [-r, r] \rightsquigarrow \begin{cases} y = r \\ y = r \\ y = 1 \\ y = -r \\ y = -r \\ y = -f \end{cases}$$

(2) - 2



$$\left| \frac{r(n+1)}{n+r} \right|$$

$$x=0 \rightsquigarrow y = \frac{1}{r}$$



اضافه بندی !!

$$|ax+a| + |y+b| = c$$

بسیار مربع می باشد

$$|x-1| + |y+1| = 3$$

$$(x, y) \rightsquigarrow (1, 1)$$

صفحه آخر...

$$x + \frac{1}{n} = a + \frac{1}{a} \rightsquigarrow \sqrt{a + \frac{1}{a}} \rightsquigarrow a + \frac{1}{a} \rightsquigarrow [r, +\infty)$$

(2) - الف

$$x + \frac{1}{n} + \sqrt{x + \frac{1}{n}} \rightsquigarrow 2 + 2\sqrt{2} \rightsquigarrow Rf: [2 + 2\sqrt{2}, \infty)$$

$$-\sin^2 \alpha + r \sin \alpha + r = 0$$

$$\frac{-b}{2a} = 1 \rightsquigarrow y = r$$

$$\max \sin = 1 \rightsquigarrow y = r$$

$$\min \sin = -1 \rightsquigarrow y = 0$$

$$Rf: [0, r]$$

$$-\frac{1}{r}(1) + 1 + -\frac{1}{r}(r) + 1 + - \dots + -\frac{1}{r}(r) + 1 = \frac{r}{r} + \frac{r}{r} + \dots + \frac{r}{r} = \frac{r(1 + \dots + r)}{r} = \frac{r^2}{r} = r$$

$$\sqrt{bx+c} \rightsquigarrow \begin{cases} x=r \rightsquigarrow y=0 \\ x=r \rightsquigarrow y=1 \end{cases} \rightsquigarrow \begin{cases} rb+c=0 \\ rb+c=1 \end{cases} \rightsquigarrow \begin{cases} b=1 \\ c=-r \end{cases}$$

بسیار مربع می باشد

$$\sqrt{bx^2+am-x} = \sqrt{x^2+r} \rightsquigarrow R x^2+r: [r, +\infty) \rightsquigarrow Rf: \sqrt{[r, +\infty)} = [r, +\infty)$$

۸- $\{1, 2\}$

$$x \neq -2 \Rightarrow D_f = \mathbb{R} - \{-2\} \Rightarrow a = b = -2$$

$$\frac{x^2 - 4x}{x+2} = \frac{x(x-2)(x+2)}{x+2} = x^2 - 2x, x \neq -2 \Rightarrow R_f = [-1, +\infty) - \{1\}$$

$C = 1$

$$f\left(\frac{a+b}{2c}\right) = f\left(\frac{-1}{-2}\right) = f\left(\frac{1}{2}\right)$$

صفحه آخر...

۹- تابع خطی: با ضرب رادیکال در مخرج

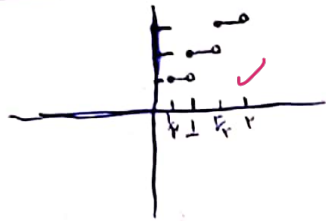
(۲)

$$\sqrt[3]{x^3 + a + b} = \sqrt[3]{(x-2)^3}$$

$$x^3 - 6x^2 + 12x - 8 \sim a = -6, b = 12$$

$$f(x) = x - 2$$

$$D_f = [-2, 12] \Rightarrow R_f = [-1, 10]$$



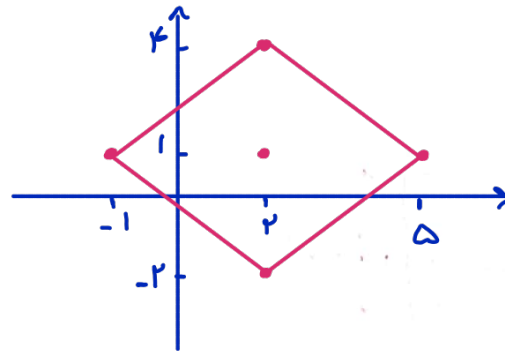
$$\left[\frac{1}{2}, 1\right) \Rightarrow y = 1$$

$$\left[1, \frac{3}{2}\right) \Rightarrow y = 2$$

$$\left[\frac{3}{2}, 2\right) \Rightarrow y = 3$$

(۲) $\left[\frac{1}{2}, 1\right) \Rightarrow y = 1$

$$\begin{cases} x > 2, y > 1 \rightarrow y = -x + 4 \\ x > 2, y \leq 1 \rightarrow y = x - 4 \\ x \leq 2, y > 1 \rightarrow y = x + 2 \\ x \leq 2, y \leq 1 \rightarrow y = -x \end{cases}$$



۴-

$$f(x) = \frac{x(x-2)(x+2)}{x+2} = x^2 - 2x$$

۸-

$$x^2 - 2x \neq 1 \rightarrow \begin{cases} x \neq -2 \\ x \neq 4 \end{cases}$$

۸ = y در برد تابع نیست یعنی:

$$D_f = \mathbb{R} - \{-2, 4\}$$

$$f(x) = x^2 - 2x \rightarrow \lim_{x \rightarrow -1} \Rightarrow R_f = [-1, +\infty) - \{1\}$$

حالا بیایم سراغ برد:

$$f\left(\frac{a+b}{2c}\right) = f\left(\frac{2}{-2}\right) = f(-1) \rightarrow f(-1) = 3$$