

A دفتر

برای زنگ پور

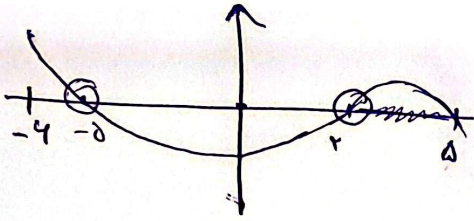
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$$y = \sqrt{u f(m)}$$

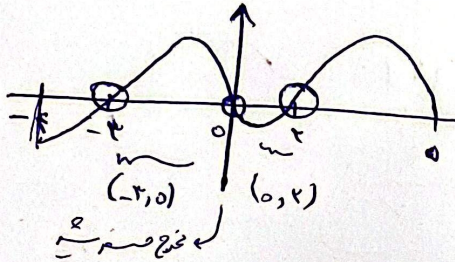
$$u f(m) \geq 0$$

$$u < 0$$

$$[-4, 0] \cup [2, 4]$$



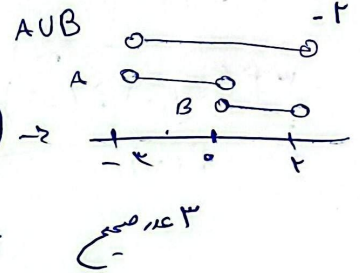
-1



$$y = \sqrt{\frac{-m}{f(m)}}$$

$$\frac{-m}{f(m)} \geq 0$$

$$(-2, 0) \cup (0, 2) \rightarrow -2, -1, 1, 2$$



-2

$$f(m) - 2f(2) = m^2 - 3m + 4$$

$$f(-2) = 0$$

$$\rightarrow f(-2) - 2f(2) = 4 + 4 + 4$$

$$f(-2) - 2(-2) = 12$$

$$f(-2) = -4$$

-3

$$f(m) = \begin{cases} m - \sqrt{m+4} & m > 2 \\ 2m+2 & m \leq 2 \end{cases}$$

$$f(4) = 4 - \sqrt{4+4} = 2$$

$$f(f(4)) = f(2) = 2(2) + 2 = 6$$

$$f(f(4)) + f(f(1)) = 6 + 2 = 8$$

$$1 \leq 2$$

$$f(1) = 2(1) + 2 = 4$$

$$f(f(1)) = f(4) = 4 - \sqrt{4+4} = 2$$

-4

$$f(m) = am^2 - bm + 2$$

$$f(m-1) - f(m) = 4m+2 \rightarrow f(m-1) = a(m-1)^2 - b(m-1) + 2$$

$$\rightarrow am^2 - 2am + a - bm + b + 2$$

$$f(m-1) - f(m) \rightarrow (-2a-b)m + a+b$$

$$a-b = -3, a+b = 2$$

-5

$$a-b=2$$

$$a+b=2$$

$$b=0$$

$$-2a=4$$

$$a=-2$$

-7

$$f(n) = n^r - n_{m+1}$$

$$f(r) = 9 - 9 + 1 = 1$$

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

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

$$f(r) = 8 - 9 + 1 = -1$$

$$\hookrightarrow \frac{r(1) + 3}{(-1)^r} = \sqrt{\quad}$$

-V

$$f(n) = \begin{cases} n_{m+1} & m \geq r \\ n^r & m < r \end{cases}$$

$$f(r) = r(r) + 1 = 1^r$$

$$f(-r) = (-r)^r - r$$

$$f(r) = r(r) + 1 = 2$$

$$\frac{r f(r) - r f(-r)}{f(r)} = 2 \rightarrow \frac{r(1^r) - r(-r)^r}{1}$$

$$\hookrightarrow \frac{r^2 - 1}{1} = \frac{r^2 - 1}{1}$$

-A

$$f = \{(r, 4), (r, r), (r, 1), (1, 4)\}$$

$$\frac{f(f(r)) - f(f(r))}{f(1) - r}$$

$$f(r) = 1$$

$$f(r) = r$$

$$\frac{4 - 4}{r - r} = 0$$

$$f(1) = 4$$

$$f(r) = 4$$

$$f(1) = 4$$

-9

$$f(n) = \frac{n^r + r n + 9}{n^r + r n + 4}$$

$$n = \sqrt{r - r} \rightarrow n + r = \sqrt{r}$$

$$\hookrightarrow n^r + r n + 4 = (n + r)^r + 1$$

$$f(f(\sqrt{r - r})) = 2$$

$$\hookrightarrow r + 1 = 8$$

$$f(r) = \frac{r + 1 + 9}{r + 1 + 4} = \frac{r + 1}{r + 4}$$

$$n^r + r n + 9 = (n + r)^r + 4$$

$$\hookrightarrow r + 4 = 1$$

-10

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

$$f(\sqrt{n}) = (\sqrt{n})^r + \frac{1}{(\sqrt{n})^r}$$

$$(f(\sqrt{n}))^r - f(n) = 2$$

$$\hookrightarrow n + \frac{1}{n}$$

$$(n + \frac{1}{n})^r \rightarrow \underbrace{n^r + r + \frac{1}{n^r}}_{f(n)} \rightarrow \sqrt{\quad}$$