

$$f(x) = \sqrt{(a-x)x^r + ax + b} \quad a-x=0 \rightarrow [a=x]$$

$$[c, +\infty)$$

$$2x^2 + b = 0 \rightarrow b = -4$$

$$f(x) = \sqrt{rx - 4}$$

$$f(x) = \sqrt{x^r + rx + r - m^r} \quad D_f \subset \mathbb{R} \rightarrow \Delta < 0$$

$$x^r + rx + r - m^r$$

$$\Delta < 0 \rightarrow b^2 - 4ac < 0 \rightarrow r^2 - 4r + 4 < 0 \rightarrow (r-2)^2 < 0$$

$$r - 2 + 4 - m^r < 0 \rightarrow r - m^r < 0 \rightarrow m^r > r \rightarrow (-1, +1) = m$$

$$\frac{r}{y} + \frac{-1}{+1}$$

$$f(x) = \sqrt{r - x^r} \rightarrow r - x^r = (r - x)(r + x) \quad x = r$$

$$[x] + [-x] + 1$$

$$[x] + [-x] + 1 = 0$$

$$x \in \mathbb{Z} \rightarrow [x] + [-x] + 1 = 0$$

$$x \notin \mathbb{Z} \rightarrow [x] + [-x] + 1 = 0$$

$$D_f = \sqrt{-r-1, r-1}$$

$$[x] + [-x] + 1 = 0$$

$$x \in \mathbb{Z} \rightarrow [x] + [-x] + 1 = 0$$

$$x \notin \mathbb{Z} \rightarrow [x] + [-x] + 1 = 0$$

$$y = \sqrt{x^r + rx^r} \rightarrow x^r + rx^r > 0 \rightarrow x^r(x+1) \quad x = -1$$

$$x = 1 \quad x = -1 \quad x = 0 \quad x = -1$$

$$D_f = (-\infty, -1) \cup [0, 1) \cup [r, +\infty)$$

$$y = \sqrt{|x-r| - r^r}$$

$$|x-r| - r^r > 0 \rightarrow |x-r| > r^r \rightarrow x-r > r^r \rightarrow x > r+r^r$$

$$x-r < -r^r \rightarrow x < r-r^r$$

$$D_f = (-\infty, r-r^r) \cup (r+r^r, +\infty)$$

$$y = \sqrt{r-|r-x|}$$

$$r-|r-x| > 0 \rightarrow |r-x| < r \rightarrow -r < r-x < r \rightarrow x < 2r$$

$$x > 0 \rightarrow x < 2r$$

$$x < 0 \rightarrow x < 2r$$

$$D_f = [0, 2r]$$