

$$ax^p + pa = ax^p - p$$

$$pa = -p$$

$$\boxed{a = -1}$$

(1)

$$y = px + b \rightarrow (p, y) \rightarrow p(p) + b = y$$

$$\boxed{b = -1}$$

(2)

$$y = \frac{ax^p + a}{px + 1} \rightarrow \frac{p + a}{\cancel{p} + 1} = y \Rightarrow p + a = 10$$

$$\boxed{a = 11}$$

$$f(1) = \frac{1 + 11}{p + 1} = \frac{12}{p} = \frac{p}{6}$$

$$px^p + ax + b \xrightarrow{x=-1} p - a + b = 0 \quad \cup \quad \cup$$

(3)

$$\rightarrow \rightarrow \xrightarrow{x=p} mp + pa + b = 0$$

$$p - a + b = mp + pa + b$$

$$da = -p0$$

$$\boxed{a = -9}$$

$$\boxed{b = -1}$$

$$f(1) = \frac{\overset{d}{p+1}}{p + \cancel{(p)} - 1} = \frac{\overset{d}{12}}{-12}$$

$$-px^p + ax + b \xrightarrow{x=-1} -p - a + b = 0$$

(4)

~~scribbled out text~~

$$b - a = +p \Rightarrow a - b = -p$$

$$\boxed{b = 9}$$

$$\boxed{a = +12}$$

$$p \div p = 1 \Rightarrow a + b = 16$$

$$(x-1)(x^p + mx + 1) \xrightarrow{x=1} (1-1)(1+m+1) = 0$$

(5)

$$x^p + mx + 1 \neq 0$$

$$\Delta = b^2 - 4ac = m^2 - 4 < 0$$

$$m^2 < 4$$

$$\boxed{-2 < m < 2}$$

$$f(x) = \sqrt{k - \frac{1}{x^p}} \geq 0$$

$$k \geq \frac{1}{x^p}$$

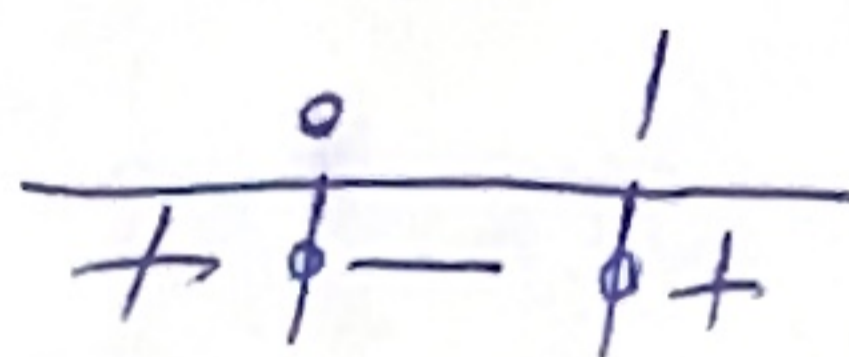
$$\text{if } x = \frac{1}{p} \Rightarrow k = \frac{1}{x^p}$$

$$x \geq \frac{1}{p} \rightarrow D_f = \left[\frac{1}{p}, +\infty\right)$$

$$f(x) = \sqrt{mx^p + pmx + 1}$$

$$\Delta = km^p - k(m) < 0$$

$$0 < m < 1$$



$$x = \frac{1}{p} \Rightarrow \sqrt{m\left(\frac{1}{p}\right)^p + k} = \sqrt{m\left(\frac{1}{p}\right)^p + 1}$$

$$(px+1)(px-1)$$

$$p+k = p$$

$$k=0$$

$$x = \frac{1}{p}$$

$$\frac{kx^p - 1}{px - 1} = px + 1 \Rightarrow a = \frac{1}{p}$$

$$\Rightarrow a = \frac{1}{p}$$

$$x \neq \frac{1}{p}$$

$$\in \mathbb{R}$$

$$k+a = \frac{1}{p}$$

$$(px-p)(px+p)$$

~~$$\frac{px^p - k}{px + p} = px + b \rightarrow b = -p$$~~

$$\frac{px^p - k}{px + p} = px + b$$

$$= px + b$$

$$\rightarrow b = -p$$

$$px - p = p\left(-\frac{p}{p}\right)a + p \Rightarrow -pa + p = \frac{-p-p}{-p}$$

$$a - b = p - (-p) = 2p$$

$$a = p$$

$$pa^p + pa = \frac{p+p}{p}$$

$$pa^p + pa - p = 0$$

$$a + b + c = 0 \rightarrow a = 1$$

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