

$$a) |\sin x| > \frac{1}{2} \Leftrightarrow x \in [k\pi + \frac{\pi}{6}, k\pi + \frac{5\pi}{6}] \cup [k\pi + \frac{7\pi}{6}, k\pi + \frac{11\pi}{6}] \Rightarrow D_f = [k\pi + \frac{\pi}{6}, k\pi + \frac{5\pi}{6}] \cup [k\pi + \frac{7\pi}{6}, k\pi + \frac{11\pi}{6}]$$



$$b) |\cos x| > \frac{1}{2} \Leftrightarrow |\cos x| < \frac{1}{2} \Leftrightarrow x = k\pi \Rightarrow D_f = \{k\pi\}$$

$$a) |n| - 2 > -1 \Rightarrow |n| > 1 \Rightarrow n > 1 \vee n < -1 \Rightarrow D_f = (-\infty, -1) \cup (1, \infty)$$

$$|n| - 2 < 1 \Rightarrow |n| < 3 \Rightarrow -3 < n < 3$$

$$b) x^2 + |x| > -1 \Leftrightarrow (x+1)(x) > 0 \Rightarrow x > 1 \vee x < -1 \Rightarrow D_f = (-\infty, -1) \cup (1, \infty)$$

$$x^2 + |x| < 1 \Rightarrow x(x+1) < 0 \Rightarrow -1 < x < 0$$

$$a) x - 2 > 0 \Rightarrow x > 2, \log_r^{x-1} \leq 1 \Rightarrow x - 1 \leq r \Rightarrow x \leq 1 + r \Rightarrow D_f = (2, 1+r]$$

$$b) x^3 - x > 0 \Rightarrow x(x-1)(x+1) > 0 \Rightarrow \frac{1}{x+1} < \frac{1}{x-1} \Rightarrow D_f = [-1, 0] \cup [1, +\infty)$$

$$a) D_f \in \mathbb{R} \quad b) r^{n-1} \neq 0 \Rightarrow n \neq 0 \Rightarrow D_f = \mathbb{R} - \{0\}$$

$$c) r^{n-1} \neq 0 \Rightarrow n \neq \frac{1}{r} \Rightarrow D_f = \mathbb{R} - \{\frac{1}{r}\}$$

$$d) r^x \neq r \Rightarrow x \neq \log_r r \Rightarrow D_f = \mathbb{R} - \{\log_r r\}$$

$$a) f(n+1) \in W \Rightarrow n \in \frac{W-1}{r} \Rightarrow D_f = \{n | n \in \frac{W-1}{r}, k \in W\}$$

$$b) \frac{f(n-1)}{r(n-1)} \in W \Rightarrow \frac{f(n-1)}{r(n-1)} = k (k \in W) \Rightarrow f(n-1) = r(n-1)k \Rightarrow (f(n-1) - r(n-1)k) = 0 \Rightarrow$$

$$n \in \frac{f(n-1) - r(n-1)k}{r(n-1) - r(n-1)k} = \frac{f(n-1) - r(n-1)k}{r(n-1) - r(n-1)k} \Rightarrow D_f = \{n | n \in \frac{f(n-1) - r(n-1)k}{r(n-1) - r(n-1)k}, k \in W\}$$