

$$\begin{array}{c} \text{a)} \quad \frac{-1}{+1} + \frac{0}{+1} + \frac{1}{+1} = 0 \quad (1) \\ \hline (-9+\infty) \cup (-9,0) \cup (-9,-1) \end{array}$$

$$\begin{array}{c} \text{b)} \quad \frac{-1}{+1} + \frac{0}{+1} + \frac{1}{+1} = 0 \\ \hline \mathbb{R} - \{1, 0, -1\} \end{array}$$

$$\text{c)} \quad \mathbb{R} - (0+\infty) \quad (2)$$

$$\rightarrow (0+\infty)$$

$$\text{d)} \quad (\infty, 1) \quad (3)$$

$$\rightarrow (\infty, 1)$$

$$r = |n| \cdot 0$$

$$r \in \mathbb{N}$$

$$\text{e)} \quad \left(-\frac{1}{\pi}, +\infty\right) \quad (4)$$

$$\rightarrow \left\{ n \mid n = k + \frac{1}{\pi} \quad k \in \mathbb{Z} \right\}$$

$$\text{f)} \quad \sin n - 1 \neq 0 \quad (5)$$

$$\downarrow \sin n \neq 1$$

$$\mathbb{R} - \{k\pi + \pi\}$$

$$\rightarrow \forall \sin^2 n - 1 \neq 0$$

$$\rightarrow \sin n \neq 1$$

$$\sin^2 n \neq 1$$

$$\mathbb{R} - \left\{ k\pi \pm \frac{\pi}{\sqrt{2}} \right\}$$

$$\rightarrow \sin x - 1 \geq 0 \Rightarrow \sin x \geq 1 \quad (6)$$

$$\sin x \geq 1$$

$$\text{a)} \quad \left[k\pi + \frac{\pi}{2}, k\pi + \frac{3\pi}{2} \right]$$

$$\rightarrow \cos n \geq 1 \Rightarrow$$

$$\rightarrow \left[k\pi, k\pi \right]$$

$$\text{b)} \quad (\cos x) (\cos y) \in [-1, 1]$$

$$\Rightarrow \cos x = \cos y$$

$$(-\pi, \pi) \cup (\pi, 3\pi)$$

$$\rightarrow (n+1)(n+2)$$

$$n^2 + n(n+2)$$

$$\left(\frac{-1}{+1} + \frac{0}{+1} + \frac{1}{+1} \right)$$

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$$\text{c)} \quad \mathbb{R} - \{0, 1, -1\} \quad (7)$$

$$\rightarrow n^2 - n = 0 \Rightarrow n(n-1) = 0$$

$$\frac{-1}{+1} + \frac{0}{+1} + \frac{1}{+1}$$

$$n \rightarrow r$$

$$\text{a)} \quad \mathbb{R}$$

$$\rightarrow r^n = 1 \Rightarrow n = 0$$

$$\mathbb{R} - \{0\}$$

$$\text{b)} \quad r^n = r$$

$$\mathbb{R} - \left\{ \log_r r \right\}$$

$$\rightarrow r^n = r \Rightarrow$$

$$\mathbb{R} - \left\{ \log_r r \right\}$$

$$\text{d)} \quad (n+1) \in W \Rightarrow$$

$$D_S = \left\{ n \mid n = \frac{r^k + 1}{r} \quad k \in W \right\}$$

$$\rightarrow r^n - r = r^m - r^w \Rightarrow$$

$$r^n - r^m = r - r^w =$$

$$n = \frac{r - r^w}{r - r^m} =$$

$$D_S = \left\{ n \mid n = \frac{r^k - r}{r - r^m} \quad k \in W \right\}$$