

الف) $x^2 - 5x + 1 - x^2 \geq 0 \Rightarrow \frac{-2x+1}{x(x-1)} \geq 0$

$R = \left[\frac{1}{2}, 1\right) \cup (-\infty, 0)$ ✓

ب) $x^2 - 1 \geq 0 \Rightarrow x \leq -1 \text{ or } x \geq 1$

$R = \left\{-1, 0, 1, 2, \frac{5}{2}\right\}$ ✓

ج) $\left(\frac{1}{x}\right)^2 - 1 \geq 0 \Rightarrow x = \frac{1}{2} \text{ or } x = \frac{1}{-2}$

$R = \left(-\frac{1}{2}, \frac{1}{2}\right) \cup D_f$ ✓

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

$x^2 - 1 > 0 \Rightarrow x \geq 1 \text{ or } x \leq -1$

$\sqrt{x^2 - 1} + 1 \neq 0$

$D_f = R = [-1, 2]$ ✓

$1 + a^2 - a^2 \geq 0$

$a(a+b)(a-b) = 0 \Rightarrow a = 0 \text{ or } b = 1 \text{ or } a = -b$

$a = -1, b = 1 \Rightarrow a + b = 0$ ✓

$2x + 1 - x \geq 0 \Rightarrow x \geq -1 \text{ or } x < 1$

$3x - 2 - x \geq 0 \Rightarrow x \geq 1 \text{ or } x \geq 1$

$D_f = [1, 2) \cup [-1, 1)$ ✓

$$\cancel{r a - f a} \quad \cancel{r a + f a}$$

$$r a - f a = V$$

$$\omega a = -11$$

$$a = \frac{-11}{\omega}$$

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$$\sqrt{r-\sqrt{c}} + \frac{1}{\sqrt{r-\sqrt{c}}} + r + \sqrt{r+\sqrt{c}} + \frac{1}{\sqrt{r+\sqrt{c}}} + r =$$

$$r \rightarrow \frac{r-\sqrt{c} + r+\sqrt{c}}{\sqrt{r-\sqrt{c}} \times \sqrt{r+\sqrt{c}}} = \frac{2r}{1} = 2r$$

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$$n(f_n - 1)$$

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$$r f(0) = r_{m-1}$$

$$f(0) = r \quad n = -r \rightarrow f(0) = \frac{\omega m + 1\omega}{4}$$

$$\cancel{r f(0)} = \cancel{r f(0)}$$

$$f(0) + r f(0) = r_{m-1}$$

$$r f(0) + \omega + m = r_{m-1}$$

$$\cancel{r f(0)} = m = r$$

$$\rightarrow f(0) = \frac{r_{m-1}}{r}$$

$$\Rightarrow \frac{\omega m + 1\omega}{4} = \frac{r_{m-1}}{r}$$

... n=1, 2

$$r f(-1) = \frac{c + 1r + c}{-1} = -11 \quad f(-1) = 9$$