

DATA

ATAQ

$$b) 6 \cdot \log_2^2 x - 7 \cdot \log_2 x + 2 = 0$$

$$\text{considerando } \log_2 x = K$$

$$\rightarrow 6 \cdot (\log_2 x)^2 - 7 \cdot \log_2 x + 2 = 0 \rightarrow$$

$$\rightarrow 6 \cdot K^2 - 7 \cdot K + 2 = 0 \rightarrow 6K^2 - 7K + 2 = 0$$

$$\Delta = (-7)^2 - 4 \cdot 6 \cdot 2 \rightarrow \Delta = 49 - 48 \rightarrow \Delta = 1$$

$$K_1 = \frac{8}{12} \rightarrow \frac{2}{3}$$

$$K = \frac{7 \pm 1}{12} \rightarrow K_2 = \frac{6}{12} \rightarrow \frac{1}{2}$$

$$\text{como: } \log_2 x = K, \log_2 x = \frac{2}{3} \rightarrow 2^{\frac{2}{3}} = x$$

$$x = \sqrt[3]{2^2} \rightarrow x = \sqrt[3]{4} //$$

$$\log_2 x = \frac{1}{2} \rightarrow 2^{\frac{1}{2}} = x \rightarrow x = \sqrt{2} //$$

$$S = \left\{ \sqrt[3]{4}, \sqrt{2} \right\} //$$

$$c) \log x (\log x - 1) = 6$$

$$\text{considerando } \rightarrow \log x = K \quad K \cdot (K - 1) = 6$$

$$K^2 - K - 6 = 0$$

$$\Delta = (-1)^2 - 4 \cdot 1 \cdot (-6)$$

$$\Delta = 1 + 24$$

$$\Delta = 25$$

$$K = \frac{1 \pm 5}{2}$$

$$K_1 = 3$$

$$K_2 = -2$$

$$\log x = 3$$

$$\hookrightarrow 10^3 = x$$

$$x = 1000$$

$$S = \left\{ 1000, \frac{1}{100} \right\}$$

$$\log x = -2 \rightarrow x = \frac{1}{100}$$