DATA

$\log_{\sqrt[3]{100}} \sqrt[6]{0,1} = z \rightarrow \left(\sqrt[3]{100}\right)^z = \sqrt[6]{0,1} \rightarrow$

$100^{\frac{z}{3}} = (0,1)^{1/6} \rightarrow \left(10^2\right)^{\frac{z}{3}} = \left(10^{-1}\right)^{1/6} \rightarrow 10^{\frac{2z}{3}} = 10^{-1/6} \rightarrow$

$\frac{2z}{3} = -\frac{1}{6} \rightarrow 12z = -3 \rightarrow z = -\frac{3}{12} \xrightarrow{\div 3} z = -\frac{1}{4}$

$\therefore S = x + y + z$

$S = -\frac{9}{4} - \frac{9}{2} - \frac{1}{4} \rightarrow \frac{-9-18-1}{4} \rightarrow \frac{-28}{4} \xrightarrow{\div 2} \frac{14}{2}$

$\therefore S = 7$ //

B115. Resolução: ☑

d) $8^{\log_4 5} \rightarrow \left(2^3\right)^{\log_4 5} \rightarrow 2^{3 \cdot \log_4 5} \rightarrow 2^{3 \cdot \log_{2^2} 5} \rightarrow$

$\rightarrow 2^{\frac{1}{2} \cdot 3 \log_2 5} \rightarrow 2^{\frac{3}{2} \cdot \log_2 5} \rightarrow 2^{\log_2 5^{3/2}} \rightarrow$

$\rightarrow 5^{3/2} \rightarrow \sqrt[2]{5^3} \rightarrow \sqrt[2]{5^2 \cdot 5} \rightarrow 5\sqrt{5}$ ///

ou

$8^{\log_4 5} \rightarrow \left(2^3\right)^{\log_4 5} \rightarrow \left(2^{\log_4 5}\right)^3 \rightarrow \left(2^{\log_{2^2} 5}\right)^3 \rightarrow$

$\left(2^{\frac{1}{2} \cdot \log_2 5}\right)^3 \rightarrow \left(\left(2^{\log_2 5}\right)^{\frac{1}{2}}\right)^3 \rightarrow \left(5^{\frac{1}{2}}\right)^3 \rightarrow 5^{3/2}$

$\sqrt[2]{5^3} \rightarrow 5\sqrt{5}$ ///