Source:

1 | cube root

1.1 | approximation

at
$$x = 0$$
 is

$$(1+x)^{\frac{1}{3}} \to \frac{1}{3}(1+x)^{\frac{-2}{3}}$$

$$\frac{1}{3}(1+0)^{...} = \frac{1}{3}$$