Source:

1 | **cube root**

1.1 | **approximation**

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

at $x = 0$ is

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

so the linear approximation is

$$y = m(x-0) + f(0) = \frac{1}{3}x$$