

25 100 0
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growing exponentially,

So

$$A(t) = 100 \cdot 2^{t/3}$$

$$A(20) = 100 \cdot 2^{20/3}$$

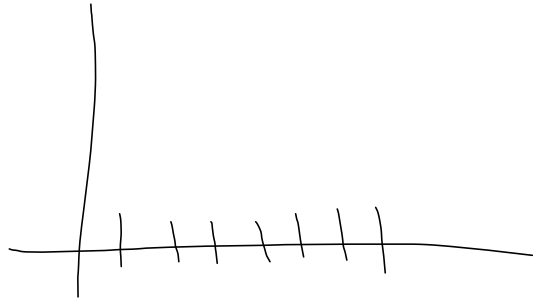
$$f(x) = 5^x$$

$$\frac{f(x+h) - f(x)}{h}$$

$$= \frac{5^{x+h} - 5^x}{h} = \frac{5^x \cdot 5^h - 5^x}{h}$$

$$\frac{5^x (5^h - 1)}{h}$$

$$f(x) = x^2, \quad g(x) = 2^x$$



$$f(24) = 24^2 = 576'' = 48 \text{ ft}$$

$$g(24) = 2^{24} = 16,777,216''$$

5280 ft inside

$$y = \frac{1+e^x}{1-e^x}$$

$$x = \frac{1+e^y}{1-e^y}$$

$$x(1-e^y) = 1+e^y$$

$$x - xe^y = 1 + e^y$$

$$x-1 = xe^y + e^y$$

$$x-1 = (x+1)e^y$$

$$\frac{x-1}{x+1} = e^y$$

$$\ln\left(\frac{x-1}{x+1}\right) = \ln e^y$$

$$\ln\left(\frac{x-1}{x+1}\right) = y$$

$$f^{-1}(x) = \ln\left(\frac{x-1}{x+1}\right)$$