

2367 Bestäm talet a så att

$$\frac{a^h - 1}{h} \rightarrow 0,5 \quad \text{då } h \rightarrow 0$$

$$\frac{a^{0,001} - 1}{0,001} = 0,5$$

$$\frac{a^{0,0001} - 1}{0,0001} = 0,5$$

$$a^{0,0001} - 1 = 0,0001 \cdot 0,5$$

$$a^{0,0001} = 1 + 0,0001 \cdot 0,5$$

$$a^{0,0001} = 1,00005$$

$$0,0001 \lg a = \lg 1,00005$$

$$\lg a = \frac{\lg 1,00005}{0,0001}$$

$$\lg a = 0,2171$$

$$a = 10^{0,2171}$$

$$= 1,648$$