Math 173 – Section 5.2: The number "e"

Suppose we have $1000 to invest at 10% per year for 10 years. Using the compound-interest formula shown in class, we'd get amount A from the formula

$$A = P\left(1+\frac{r}{n}\right)^{nt},$$

where P is the principal ($1000), r is the yearly rate (0.1), and t is the time of investment (10 years). The variable n is the number of compounding periods per year, and the amount A that you would get varies as n, as shown in the table below.

	A	B	C	D
1	*compounding period*		$1000\left(1+\frac{0.1}{x}\right)^{(10x)}$	
2	*yearly*	1	2593.7424601000	
3	*monthly*	12	2707.0414908622531148	
4	*weekly*	52	2715.6726950308601142	
5	*daily*	365	2717.9095545777538264	
6	*hourly*	8760	2718.2663133141708018	
7	*every minute*	525600	2718.2815698708146523	
8	*every second*	31536000	2718.2818241694182054	
9				
10	*continuously*		2718.2818284590452354	