

▼ Calculating Interest

**Simple Interest** is calculated just one time.

$A = P(1 + r)^t$

where:

- **A** - final amount
- **P** - principal (starting balance)
- **r** - annual interest rate (as a decimal)
- **t** - time (in years)

**Periodically Compounding Interest** is expressed as a fuction of the number of times (*n*) the interst is applied:

- **n** - number of compounds per year

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

Bernoulli noticed that this sequence approaches a limit (the force of interest) with larger n and, thus, smaller compounding intervals. Compounding weekly (n = 52) yields \$2.692596..., while compounding daily (n = 365) yields \$2.714567... (approximately two cents more). The limit as n grows large is the number that came to be known as **e** Euler's Number. That is... with **Continuously Compounding Interest**, the account value will reach \$2.718281828...

$$\begin{aligned} 1\left(1 + \frac{1}{1}\right)^{1*1} &= 2^1 = 2 \\ 1\left(1 + \frac{1}{2}\right)^{2*1} &= 1.5^2 = 2.25 \\ 1\left(1 + \frac{1}{4}\right)^{4*1} &= 1.25^4 = 2.4414 \\ 1\left(1 + \frac{1}{365}\right)^{365*1} &= 1.002739^{365} = 2.714576 \\ e &= \lim_{n \rightarrow \infty} \sum_{i=1}^n \left(1 + \frac{r}{n}\right)^{nt} \end{aligned}$$

while *r* = 1 and *t* = 1 and after some simplification and clever rearranging...

$$e = \sum_{n=0}^{\infty} \frac{1}{n!} = 1 + \frac{1}{1!} + \frac{1}{2!} + \frac{1}{3!} + \dots$$

so the **Continuously Compounding Interest** formula is:

$A = Pe^{rt}$

▼ The 10X lie method demonstrated by tiny orange hands





Tools Required:

- 1. Gold spray paint
- 2. Lack of morals

Instruction:

- 1. Repeat the steps below until Jack Smith indicts

| Event              | TV Delusion  | Cash Reality | Stolen     |
|--------------------|--------------|--------------|------------|
| Trumpian lie       | +\$1,000,000 | \$1          |            |
|                    | =\$1,000,000 | \$1          |            |
| fraudulent loan #1 |              | +\$100,000   | +\$100,000 |
|                    |              | =\$100,001   | =\$100,000 |
| 2nd gold toilet    | +\$1,000,000 | (\$1)        |            |
|                    | =\$2,000,000 | =\$100,000   |            |
| fraudulent loan #2 |              | + \$100,000  | +\$100,000 |
|                    |              | =\$200,000   | =\$200,000 |
| 3rd gold toilet    | +\$1,000,000 | (\$1)        |            |
|                    | =\$3,000,000 | =\$199,999   |            |
| fraudulent loan #3 |              | +\$100,000   | \$100,000  |
|                    |              | =\$299,999   | =\$300,000 |
| 4th gold toilet    | +\$1,000,000 | (\$1)        |            |
|                    | =\$4,000,000 | =\$299,998   |            |
| fraudulent loan #4 |              | +\$100,000   | \$100,000  |
|                    | \$4,000,000  | =\$399,998   | =\$400,000 |

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print("I'm hella good at bizness!")
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I'm hella good at bizness!