6-4: Compound Interest

I can identify the different parts of the compound interest formula.

I can use the compound interest formula in a contextual problem

Equation for Compound Interest

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

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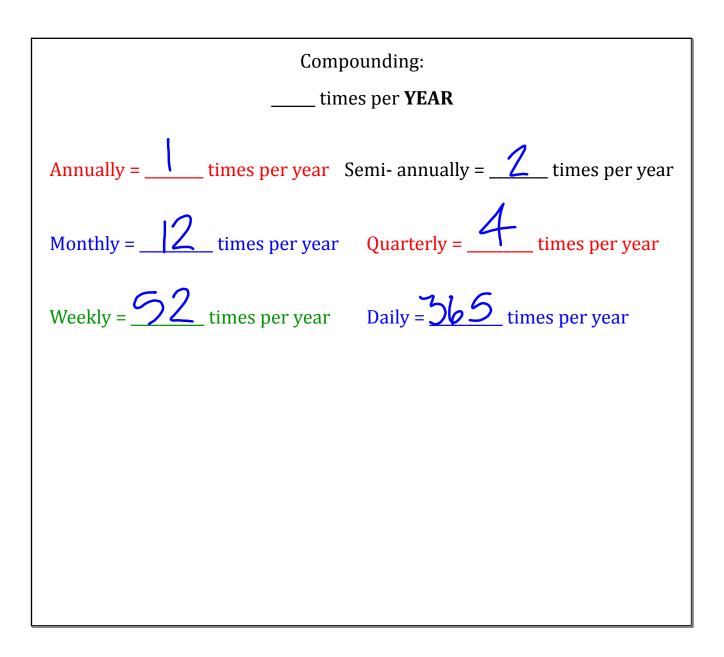
Example 1: Identify the principal amount, annual interest rate, and the number of times the interest is compounded each year.

$$A = 2000 \left(1 + \frac{.032}{12} \right)^{12t} \qquad A = 1500 \left(1 + \frac{.001}{6} \right)^{6t}$$

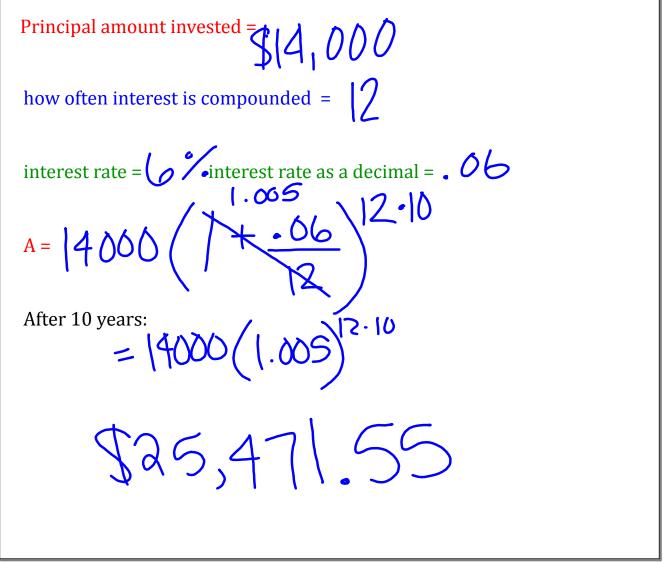
$$P = 2000 \qquad P = \frac{5}{500}$$

$$Y = .032 \rightarrow 3.2\% \qquad Y = .001 \rightarrow .1\%$$

$$N = 12 \qquad N = 6$$



Example 1: Maria's parents invested \$14,000 at 6% per year compounded monthly. How much money will there be in the account after 10 years?



Example 2: Determine the amount of an investment if \$300 is invested at an interest rate of 3.5% compounded monthly for 22 years. $A = P(1 + \frac{r}{n})^{r}$ $A = 300(1 + \frac{.035}{12})^{r}$ 2.22 A=647.20

