**Notes: Simple Interest & Compound Interest**

Simple Interest

**Equation:**

where  *I =*

*P =*

*r =*

*t =*

**Features:**

* The amount of interest earned \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ over time.
* Total amount of money in your account is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ function.

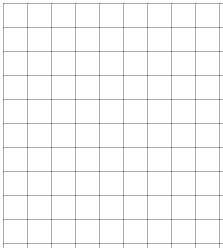
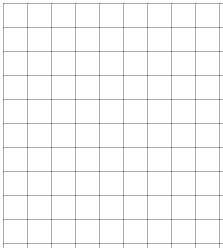
**Example:** Suppose you invest $1,000 in a stock market fund that is supposed to earn 8% interest each year. How much interest do you earn each year?

What is the total amount of interest you earn after 10 years?

What is the total amount in your investment account after 10 years?

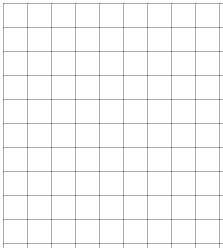
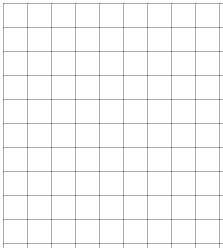
*Amount of Simple Interest Earned Total Amount of Money in Your Account*

*Each Year on $1,000 at 8%*



Time (in years)

Total Account Balance ($)



Time (in years)

Interest ($)

Compound Interest

**Equation:**

where  *B =*

*P =*

*r =*

*t =*

*n =*

**Features:**

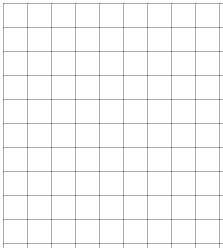
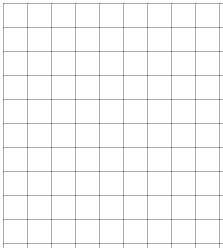
* The amount of interest earned \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ over time.
* Total amount of money in your account is an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ function.

**Example:** Suppose you invest $1,000 in an account that earns 8% interest compounded quarterly. How much interest do you earn after one quarter? After two quarters? Three quarters? One year?

What is the total amount in your account after 10 years?

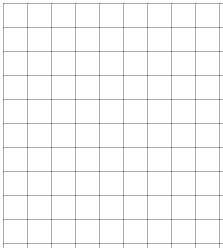
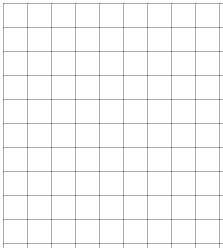
*Amount of Compound Interest Earned Each Total Amount of Money in Your Account*

*Year on $1,000 at 8%, Compounded Quarterly*



Time (in quarters)

Interest ($)



Time (in years)

Total Account Balance ($)