

Name _____

Date _____

NOW YOU TRY STUDENT WORK SHEET
11th - 12th Grade

ANNUAL INTEREST

1. Taylor wants to invest her **\$7,500** college fund at her bank. She picks an **annual certificate of deposit (CD)** that will pay her **3%** annually. She has a three year timeframe until she will need her college money. (Remember, **3% interest** is .03 when written as a decimal.)

A. Fill in the table to find out how Taylor's investment grows:

	Beginning Balance	3% Interest	Ending Balance
Year 1	\$7,500		
Year 2			
Year 3			

- B. If Taylor chose a **statement savings account, compounding quarterly**, how would her account **balance** increase in the first year?

	Beginning Balance	3% Interest	Ending Balance
1 st Quarter	\$7,500		
2 nd Quarter			
3 rd Quarter			
4 th Quarter			

- C. Compare the **APY** Taylor's accounts would earn depending on which account type she chose:

Annual CD APY:

Statement Savings APY:

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ANNUAL vs. QUARTERLY

Compound Interest Formula

There is a formula you can use to calculate the ending balance of an investment if you know certain facts about the investment, such as: **principal**, **APR**, **compounding periods**, and **the number of years the investment lasts**.

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

Where: A = Accumulated Balance
P = Principal
r = APR expressed as a decimal
n = number of compounding periods/year
t = number of years the investment lasts

Let's look again at Taylor's situation:

Taylor wants to invest her **\$7,500** college fund at her bank. She has a three-year timeframe until she will need her college money. **Annual compounding CDs and quarterly compounding statement savings accounts** are **BOTH** offering an **APR** of **3%**. (Remember, **3% interest** is .03 when written as a decimal.)

1. Complete Taylor's information below.

Principal =

APR =

Number of years the investment lasts = 3

Use the **compound interest formula** to compute her balance at the end of the investment. Do the calculation for the annual **CD** and the quarterly statement savings account.

Annual CD

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

Quarterly Statement Savings

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

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ANNUAL vs. QUARTERLY vs. MONTHLY

1. Andrea wants to invest **\$2,500** at her bank. **Annual certificates of deposit, statement savings accounts, and money market savings accounts** are all offering a **3% APR**. Andrea will not need the funds in this investment for 5 years. (Remember, **3% interest** is .03 when written as a decimal.)

Use the **compound interest formula** to calculate the ending balance of each investment:

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

2. In the space below, explain what investment advice you'd give Andrea and why.