

On Demand

Name _____ Teacher _____ Date _____

Best Interest

Wendy receives money from her grandparents for special occasions like Christmas and birthdays. Currently she has \$1850 in a savings account. Since she is planning to go on to more schooling after she graduates, she wants the money to increase as much as possible without risking it. After doing some investigation, Wendy learns that there are various accounts that earn interest differently. She finds:

Accounts	Type	Annual Interest Rate	Interest Paid each pay period
Secure Savings	Simple interest (Compounded once a year)	8.0%	
Money Market	Compounded quarterly (4 times a year)	7.6%	
Super Saver	Compounded monthly (12 times a year)	7.2%	0.6%

Complete this table.

She also learns that she can calculate the amount of money that she will have with a formula.

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

A = total amount of money

P = Principal

r = Interest rate per pay period

n = Number of times compounded per year

t = number of pay periods

1. Wendy plans to deposit \$1500 of the money in her savings account into one of the accounts, making no other deposits or withdrawals to that account for four years.
 - a) Calculate the amount of money that she will have in each type of account at the end of the four years.

b) Which account will be the best investment, earning the most money for Wendy?

2. After Wendy has invested her money, she learns of another account called Plus Savings that compounds semi-annually (twice each year). She knows that she will soon have another \$500 to invest separately. Wendy wonders what annual interest rate she would have to receive to earn \$100 in interest for one year on this \$500. Calculate the annual rate of interest to the nearest tenth percent that Wendy would have to receive to earn \$100 in interest at the end of one year.