CVT FINANCIAL PLANNING
Cynthia V. Taradash, MBA, CFP®, ChFC
NAPFA-Registered Financial Advisor

NEW HAMPSHIRE
P.O. Box 28
Whitefield, NH 03598
603.837.2506

ARIZONA
3331 N. Deerspring Court
Tucson, AZ 85750
520.731.3434

Fax: 866.263.4922
c.taradash@cvtfinancial.com
www.cvtfinancial.com

Quiz Shows Compounding Pays Off

It is the middle of summer and probably the last thing you want to do is take a quiz right now. But, if you do, you might learn something new. And, I'll give you one hint—there can be trick questions.

1) You invest $1,000 a month for 20 years. It grows at an 8% annual rate of return. Ignoring taxes, how much will you have in 20 years?
   a) $240,000
   b) $328,302
   c) $589,020
   d) $762,195
2) You invest $1,000 a month for 20 years. It grows at a 3% annual rate of return. Ignoring taxes, how much will you have in 20 years?
   a) $240,000
   b) $328,302
   c) $589,020
   d) $762,195
3) How many dollars do you need in order to have one million dollars?
   a) 1 million
   b) $680,583
   c) $463,193
   d) $214,548
   e) All of the above
4) Which will result in a greater value in 20 years, assuming the same rate of return?
   a) Investing $4,000 a year for 20 years
   b) Investing $10,000 a year for 10 years, starting 10 years from now

Answers: 1 – c; 2 – b; 3 – e; 4 - a. The calculation for the answers to questions one and two are rather straightforward. The total investment over the 20 years is $240,000. Due to compounding and the rate of return, the total investment is going to grow in value. The higher the rate of return, the greater the future value of the investment. However, the higher the projected rate of return, the higher the risk and the greater the probability that the rate of return can't be achieved every year. So, even though an investment

earning 8% a year will do better on paper than an investment earning 3% a year, the rate of return is not guaranteed. The rate of return will probably fluctuate year to year and could even result in a negative rate of return. The key to the investment is to diversify so you have some rather risky investments in your portfolio and you also have some very conservative, safe investments also.

Question three is a trick question because I didn't ask when you wanted the million dollars. Obviously, having 1 million dollar bills would give you a million dollars so if you answered "a" you are correct. But, if you had $680,583 dollars today and it grew 8% a year, the investment would be worth $1 million in 5 years. Having $463,193 today would result in $1 million in 10 years at the 8% rate of return and having $214,548 today will result in $1 million in 20 years.

Question four looks at concepts of time value of money and the value of compounding. Investing $4,000 a year at 8% will result in an investment worth about $183,000 in 20 years. Investing $10,000 a year at 8% for only ten years but starting ten years from now will result in around $145,000 twenty years from now. The $4,000 a year investment means a total investment of $80,000 over the twenty years. The $10,000 investment is a total investment of $100,000. The $10,000 a year investment means you will have invested more cash over the twenty years but will wind up with less total dollars at the same rate of return. This is because the investment started now takes advantage of compounding – a concept that shouldn't be easily dismissed. As you can see, compounding can have a significant positive impact on a portfolio. So, starting to invest even a small amount as soon as possible for some future long term goal means you might not have to invest as many dollars as you would if started later.