INVESTIGATION INTO EFFECTS OF COMPOUND INTEREST

Question # 1: How do you think the growth rate and final amount of a $1000 investment over 20 years compares to the growth rate and final amount over 10 years? We will assume a return of 8%, and compounded annually.

Will the growth rate for a 20 year investment be larger, smaller or the same? What about the final amount? Make your best educated guess.

Value for 10 years: Value for 20 years:

Compare:

10 years: 20 years: 20 years vs. 10 years:

$\frac{final amount}{principal}=$ $\frac{final amount }{principal}=$ $\frac{20 years}{10 years}$ =

What can you conclude about the growth and final amounts of 10 and 20 year investments?

Question # 2: How will the growth rates and final amounts change if $1000 and $10000 are invested? We will assume a term of 10 years, compounded annually.

Will the growth rate be larger, smaller of the same? What about the final amount? Make your best educated guess.

Value for $1000: Value for $10000:

Compare:

$1000: $10000: $10000 vs. $1000:

$\frac{final amount}{principal}=$ $\frac{final amount }{principal}=$ $\frac{final amount of \$10000}{final amount of \$1000}=$

What can you conclude about the growth and final amounts of the $100 and $1000 investments?

Question # 3: How will the growth rate and final amount change if $1000 is invested at 10% instead of 8%? We will assume a term of 10 years, compounded annually.

Will the growth rate be larger, smaller of the same? What about the final amount? Make your best educated guess.

Value for $1000 at 8%: Value for $1000 at 10%:

Compare:

8%: 10%: 10% vs. 8%:

$\frac{final amount}{principal}=$ $\frac{final amount }{principal}=$ $\frac{final amount of 10\%}{final amount of 8\%}=$

What can you conclude about the growth and final amounts of the 8% and 10% investments?

Question # 4: How will the growth rate and final amount change if $1000 is invested at 8% and compounded monthly instead of annually? We will assume a term of 10 years.

Will the growth rate be larger, smaller of the same? What about the final amount? Make your best educated guess.

Value for annually: Value for monthly:

Compare:

annually: monthly: monthly vs. annually:

$\frac{final amount}{principal}=$ $\frac{final amount }{principal}=$ $\frac{final amount of monthly}{final amount of annually}=$

What can you conclude about the growth and final amounts of the investments compounded annually and monthly?