Compound Interest Practice

1) SET UP a compound interest expression for each set of given values. **Do not evaluate.**

a) How much money will we have in 12 years if we invest $4,000 in an account earning 2.5% compounded annually?

b) How much money will we have in 9 years if we invest $6,700 in an account earning 4% compounded quarterly?

c) How much money will we have in 18 years if we invest $1,200 in an account earning 5.3% compounded continuously?

2) Set up and solve each compound interest problem. **Exact solutions only. (Do not use a calculator.)**

a) How much money do we need to deposit in order to have $5,000 at the end of 6 years in an account earning 3.4 % compounded continuously?

b) How much money do we need to deposit in order to have $2,000 at the end of 3 years in an account earning 1.9 % compounded monthly?

c) What rate of interest is required to double our money in 10 years in an account earning interest on an annual basis?

d) What rate of interest is required to double our money in 10 years in an account earning interest compounded quarterly?

3) Set up a compound interest expression for each set of given values. Solve for using common or natural logarithms. **Show your work.**

a) How long will it take for $2,500 to increase to $4,000 in an account earning 3.2% compounded annually?

b) How long will it take for $500 to increase to $600 in an account earning 4.7% compounded monthly?

c) How long will it take to double our money in an account earning 4.1% compounded continuously?

d) How long will it take to triple our money in an account earning 2.8% compounded continuously?