

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

$$A = Pe^{rt}$$

$$A = a(1+r)^t$$

$$A = a(1-r)^t$$

Solve each application of exponential equations. Round your answers to the appropriate decimal. Do all work on a separate sheet of paper. Must show work to receive credit!!

<p>1) Gina deposited \$1500 in an account that pays 4% interest compounded quarterly. What will the balance be in two years?</p> <p style="text-align: center;">$\\$4917.62$</p>	<p>2) Sarita deposits \$1000 in an account that pays 3.4% annual interest compounded continuously.</p> <p>a.) What is the balance in the account after five years?</p> <p style="text-align: center;">$\\$1185.30$</p> <p>b.) How long will it take the balance in Sarita's account to reach \$2000?</p> <p style="text-align: center;">$t = 20.4 \text{ yrs}$</p>
<p>3) The Garcias have \$12000 to invest in a savings account. What monthly interest rate will they need to find in order to have \$20000 balance after 8 years?</p> <p style="text-align: center;">$.53\% \text{ Monthly Rate}$</p> <hr style="width: 20%; margin: 0 auto;"/> <p style="text-align: center;">$6.4\% \text{ APR}$</p>	<p>4) David's bank pays 2.8% annual interest compounded continuously on a savings account. He placed \$2000 in the account.</p> <p>a.) How long will it take his initial deposit to double in value?</p> <p style="text-align: center;">24.8 yrs</p> <p>b.) What will the balance be after 5 years?</p> <p style="text-align: center;">$\\$2300.55$</p>
<p>5) How long will it take for a \$1000 investment to triple at 7% interest compounded daily?</p> <p style="text-align: center;">15.7 yrs</p>	<p>6) Miguel has 4 years to save \$3000 for a car when he goes to college. If the 4 year certificate of deposit he buys has 8% annual interest compounded continuously, how much should he invest now in order to reach his \$3000 goal?</p> <p style="text-align: center;">$\\$2,178.45$</p>
<p>7) Suppose your parents invest \$1,200 in a savings account with 6% annual interest rate when you were born. How much will be in the account after 18 years?</p> <p style="text-align: center;">$\\$3,425.21$</p>	<p>8) You bought a car in 2003 for \$24,000. The car's value depreciates by 8.7% each year. How much will your car be worth in 2014?</p> <p style="text-align: center;">$\\$8,818.40$</p>