

- 1) Suppose you are put in control of the investments of your company. You want to get the most for your money, so you search around for the best investment deals.  $A = P\left(1 + \frac{r}{n}\right)^{nt}$

Bank of America : 7% , Compounded Semi-Annually

Washington Mutual : 6.5% , Compounded Quarterly

Guaranty Federal : 5% , Compounded Monthly

Capital One : 8% , Compounded Annually

You are given \$110,500 to invest in the best deal. What is the best deal? How much of a difference does it make?

- a) Write an equation for each bank.

- b) Find the values of the return at: 5 years, 10 years, 25 years.
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2) Would you rather have \$5,000,000 or a penny which gets doubled every day for 30 days?

a) Write an equation to represent this situation.

b) What do you notice about Day 30, compared to the \$5,000,000 offer?

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3) You are trying to stay up all night for the Algebra 2 final that you procrastinated for weeks. You down 4 Dr. Pepper, giving you 30mg of caffeine each. You know that you are going to be bouncing off the walls when it hits your bloodstream in about 10 minutes. However, you will no doubt have a serious 'low' when it's draining out of your system.

a) If the caffeine depletes at a rate of 15% per hour, how much is in your bloodstream after 3 hours.

i. Set up the equation

ii. Solve

b) When will the caffeine be down to 10 mg?