

Unit 4 Day 3 HW

1. William wants to have a total of \$4000 in two years so that he can put a hot tub on his deck. He finds an account that pays 5% interest compounded monthly. How much should William put into this account so that he'll have \$4000 at the end of two years?
2. Kelly plans to put her graduation money into an account and leave it there for 4 years while she goes to college. She receives \$750 in graduation money that she puts it into an account that earns 4.25% interest compounded semi-annually. How much will be in Kelly's account at the end of four years?
3. If interest is compounded continuously at 4.5% for 7 years, how much will a \$2000 investment be worth at the end of 7 years?
4. If \$8000 is invested in an account that pays 4% interest compounded continuously, how much is in the account at the end of 10 years?
5. If a \$500 certificate of deposit earns 4.25% compounded continuously then how much will be accumulated at the end of a 3 year period?

6. A certain investment earns 8.75% compounded continuously. If \$10,000 dollars is invested for 5 years how much will be in the account after 5 years?

7. A certain bacterium has an exponential relative growth rate of 25% per day. If we start with 0.5 gram and provide unlimited resources how much bacteria can we grow in 2 weeks?

8. The half-life of chromium-51 is 28 days. If the sample contained 510 grams, how much chromium would remain after 56 days? How much would remain after 1 year?

9. Titanium-51 decays with a half life of 6 minutes. What fraction of titanium would remain after one hour?