

1. Brandon invested \$2,400 in a three year CD that pays four percent compounded annually. What is the compound interest and amount that will be in the bank after three years?
2. Claudia invested \$5,600 in a five year CD that pays eight percent compounded quarterly. What is the compound interest and amount that will be in the bank after five years?
3. Hunter borrowed \$90 from Adil eight months ago. Today, Hunter paid Adil back \$102.60. What is the simple annual interest rate that Hunter paid?
4. Kalkedan has a government bond that will be worth \$10,588.13 in seven years. The bond has an interest rate of 6% that is compounded semiannually. What is the present value of the bond?
5. The local government projects that the town will grow at a constant rate of nineteen percent per year. At this rate, how many years will it take the town's population to be four times its current size?
6. Eloy invested \$2,300 in a corporate bond that pays 14% interest compounded continuously. How long will it take for Eloy's investment to triple?
7. What is the pH of a solution whose concentration of hydrogen ions is 6.5×10^{-8} moles per liter?

8. Kianna is a scientist who measured the intensity of an earthquake to be 121,000 times the reference intensity. If Kianna needs to report a Richter scale reading to Chris, a newspaper reporter, what number should Kianna tell Chris?

9. Sydney bought a gold coin for \$9,000. If the value of the ring increases at a constant rate of 1.79% per year, how many years will it be for the ring to be worth \$17,978.02?

10. Dawson spent \$1,200 on a credit card this month. The credit card charges 24.77% interest compounded continuously. If Dawson does not have to pay any monthly minimums and makes no payments, how long will it take until Dawson owes the credit card company \$2,400?

11. A translucent plastic paper reduces the intensity of light that passes through it by eight percent. Ben wants to combine a number of these papers to only allow at the most forty percent of light to pass through. How many translucent plastic papers should Ben use?

12. Dylan currently pays a \$608 premium for health insurance. If the premium increases at an annual rate of 8.01% per year, how many years will it take for the premium to be \$2,086.06?