

Name: _____ Date: _____ Hour: _____

Algebra II Worksheet Section 8.2

Directions: Solve the following problems assuming no deposits or withdrawals.

1. Heather received \$100.00 for her thirteenth birthday. If she saves it in a bank with 5% interest compounded quarterly, how much money will she have in the bank by her 16th birthday?
2. Roland earned \$1500 last summer. If he deposited the money in a certificate of deposit that earns 12.5% interest compounded monthly, how much money will he have next summer?
3. The C.R.E.A.M. company has a savings plan for their employees. If an employee makes an initial contribution of \$2500 and the company pays 7.5% interest compounded quarterly, how much money will the employee have after 10 years?
4. Juan invests \$7500 at 12% interest for one year. How much money would he have if the interest was compounded...
 - a. yearly?
 - b. daily?
5. Carmen is saving for a new car which will cost \$15,000. If she puts \$5,000 in an account which earns 10% interest compounded monthly, how long will it take for her to save enough money to buy the car?

Find the amount in a continuously compounded account for the given conditions.

6. Principal: \$2000
Annual interest: 5.1%
Time: 3 yr

7. Principal: \$400
Annual interest: 7.6%
Time: 1.5 yr

8. Principal: \$950
Annual interest: 6.5%
Time: 10 yr

9. There are 10 grams of Curium-245 which has a half-life of 9,300 years. How many grams will remain after 37,200 years?

10. There 80 grams of Cobalt-58 which have a half-life of 71 days. How many grams will remain after 213 days?

11. The half-life of Rhodium-105 is 1.5 days. If there are initially 7500 grams of this isotope, how many grams would remain after 30 days?

12. Two hundred ten years ago there were 132,000 grams of Cesium-137. How much is there today? The half-life of Cesium is 30 years.