Find the exact value of each of the following. Express irrational numbers using standard radical form. (No calculators are to be used on this page.)

1. 
$$2^{4} =$$
 2.  $(-1)^{25} =$  3.  $(-2)^{3} =$   
4.  $25^{\frac{1}{2}} =$  5.  $27^{\frac{2}{3}} =$  6.  $16^{\frac{1}{2}} =$   
7.  $9^{1.5} =$  8.  $3^{\frac{1}{3}} =$  9.  $2^{\frac{1}{2}} =$   
10.  $12^{0.5} =$  11.  $\left(\frac{2}{3}\right)^{3} =$  12.  $\left(\frac{2}{3}\right)^{-3} =$ 

13.  $\left(\frac{1}{8}\right)^{\frac{1}{3}} =$  14.  $\left(\frac{2}{9}\right)^{\frac{1}{2}} =$  15.  $\left(\frac{3}{8}\right)^{\frac{2}{3}} =$ 

## Algebra II Review Unit 10 page 2

(Calculators are needed on this page.)

16. \$1000 is invested in an account paying interest at an annual rate of 3% compounded quarterly. Express the balance of the account, A, as a function of the time, t, in years. Graph this function for values of t from 0 to 20 years. Label your graph with its equation.

function:

17. \$800 is invested in an account paying interest at an annual rate of 6.5% compounded daily. Express the balance of the account, A, as a function of the time, t, in years. Graph this function for values of t from 0 to 20 years. Label your graph with its equation.

function: \_\_\_\_\_



## Algebra II Review Unit 10 page 3

(Calculators are needed on this page.)

18. A certain radioactive substance with a mass of 2900 grams has a half-life of eight years. Express its mass, Q, as a function of time, t, in years. Graph this function for values of t from 0 to 20 years. Label your graph with its equation.

function:

19. A certain radioactive substance with a mass of 1500 grams has a half-life of twenty years. Express its mass, Q, as a function of time, t, in years. Graph this function for values of t from 0 to 20 years. Label your graph with its equation.



## Algebra II Review Unit 10 page 4

20. \$1000 is invested in an account paying interest at an annual rate of 4.5% compounded continuously. Express the balance of the account, A, as a function of the time, t, in years. Graph this function for values of t from 0 to 20 years.

function:

function:

21. \$600 is invested in an account paying interest at an annual rate of 7% compounded continuously. Express the balance of the account, A, as a function of the time, t, in years. Graph this function for values of t from 0 to 20 years.

A (dollars) 3000 2800.  $| \rightarrow$ 2600 2400 • 1-+ 2200 • 1-+ 2000 • 1800 •  $| \rightarrow$ 1600 1-----1400 1-+-1200  $| \rightarrow$ 1000.  $| \rightarrow$ 800 . 600 400 200 t 04 10 5 15 -20 years