Math 2 Name:_____

7.2 Compounded and Continuous Interest

For investment accounts that have compounded interest, the following formula is used:

$$A = P\left(1 + \frac{r}{n}\right)^{nt}$$

1. Austin deposits $450 into a savings account with a 2.5% interest rate compounded monthly. How much money will Austin have after 5 years?

2. Cyndi and Derek just got married. They received a lot of money at their wedding and decided to invest $1000 in a Dream CD (type of an account). Cyndi and Derek chose to do a 30 year CD with a 0.896% interest rate compounded monthly. How much money will they have in 30 year?

3. Eva invested $750 in a savings account with an interest rate of 1.2% that is compounded annually. When would Eva have $2000 in her savings account?

4. 4Mr. Luke invested $4000 into a certificate deposit that gets 8% interest per year. The account is compounded quarterly, when will Mr. Luke have $7000 in his certificate?

5. Jace invested $12,000 in a 3-year Dream CD with interest compounded annually. At the end of the 3 years, his CD is worth $12,450. What was the interest rate for the CD?

6. Jaron has a savings account containing $5000 with interest compounded annually. Two years ago, it held $4,500. What was the interest rate?

7. Lindsey needs to have $10,000 for the first semester of college. How much does she have to invest in an account that carries an 8.5% interest rate compounded monthly in order to reach her goal in 4 years?

8. If Nick has $20,000 now, how long will it take him to save $50,000 in an account that carries an interest of 5.83% compounded quarterly?

Math 2 Name:_____

7.2 Compounded and Continuous Interest

For investment accounts that are compounded continuously use $A = Pe^{rt}$

9. Eva invested $750 in a savings account with an interest rate of 1.2% that is compounded continuously. How much money will be in the account after 7 years?

A=

P=

r=

t=

10. Joshua put $5000 in a special saving account for 10 years. The account had an interest rate of 6.5% compounded continuously. How much money does he have?

A=

P=

r=

t=

11. Emily invested $1250 in an account that had an interest rate of 0.5% compounded continuously. How long will it take her to reach $1280?

A=

P=

r=

t=

12. Sam invested some money in a CD with an interest rate of 1.15% compounded continuously. How much money did Sam invest if he had $1500 after 10 years?

A=

P=

r=

t=

13. Analeigh is given the option of investing $12,000 for 3 years at 7% compounded monthly or at 6.85% compounded continuously. Which option should she choose and why?

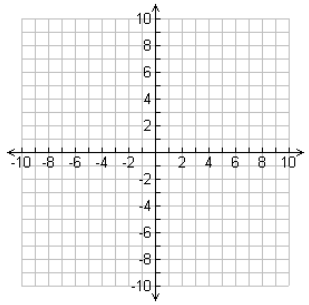
Simplify.

14. $\sqrt{12} - 4\sqrt{45} - \sqrt{18}$

15. $-5\sqrt{2}\left(-2\sqrt{7} + 5\sqrt{8}\right)$

Graph the following.

16. $f(x) = \begin{cases} x - 2 & x < 0 \\ x^2 + 1 & x \geq 0 \end{cases}$



17. Use #16 to find the following.

A) x-intercepts y-intercepts

B) Positive Negative

C) Max/Min