Name: _____ Date: _____

Linear and Exponential word problems

1) Ryan is saving for his college tuition. He has $2,550 in a savings account that pays 6.25% annual interest. How much money will Ryan have in his account 6 years from now?

Equation:

Formula: _____

2) Paul is saving money for college. He put $500 in a savings account. He plans to save $250 each month. How much money will Paul have in his account 3 months from now?

Equation:

Formula: _____

3)   In 2012 a used car was purchased for $12,329 this year. Each year the car's value decreases 8.5%.   What will the car be worth in 2020?

Equation:

Formula: _____

4) Misty gets paid 7.25 per hour working at Target. How much money will Misty make if she works 22.5 hours this week?

Equation:

Formula: _____

5) Jeremiah owns a business. His first year he made $11,212, each of the following years his profit increased 12%. What will she make in 20 years?

Equation:

Formula: _____

6) You want to clean your carpet. The company charges $20 to rent the cleaner plus $12 for each hour you have the cleaner. How much money will you pay if you rent the cleaner for 12 hours?

Equation:

Formula: _____

7) Dianna is researching the reproductive rate of genetically modified vegetables to see if they will grow better than others. Right now she has planted 150 plants and they are doubling every year. How many plants can she expect to have after 10 years?

Equation:

Formula: _____

8) Rob needs to call an electrician to fix some wiring. The electrician charges a service charge of $50 just to come out to the house and then $25 for each hour he is there. How much money will Rob spend if it takes the electrician 4 ½ hours to complete the job?

Equation:

Formula: _____

9) A radioactive material decays at a rate of 40% per hour.   You begin with 80 grams of radioactive material. How much will be remaining after 6 hours?

Equation:

Formula: _____

10)   Globo Inc. is a company that makes money by getting clients to refer new customers to the company. It started with only 5 clients. If each client is required to get 3 new clients every month, how many clients will Globo Inc. have in a year?

Equation:

Formula: _____

11)   Taylor is training for a marathon. He decides to begin by running 3 miles and increase by 1.5 miles each day. How long will it take him to run 26.2 miles?

Equation:

Formula: _____

12) On Olga's 16th birthday her uncle invested $2,000 in an account with a 4.75% interest rate compounded monthly. How much will she have when she turns 18?

Equation:

Formula: _____

13) You bought a Boston Whaler in 2004 for $12,500. The boat's value depreciates by 7% a year. How much is the boat worth now? How much is it worth in 2020?

Equation:

Formula: _____

14) Samantha deposits $4,000 in an account that pays 5% annual interest. How much will she have in ten years if the amount compounds monthly?

Equation:

Formula: _____

15) How much will Samantha (from question 14) have in ten years if the amount compounds annually?

Equation:

Formula: _____

16) You bought an iPhone this year for $700. The phone's value depreciates by 25% a year. How much will the phone be worth in 4 years?

> Equation:

Formula: _____

17) The population of a large city increases by a rate of 3% a year. When the 2000 census was taken, the population was 1.2 million. What is the population now?

> Equation:

Formula: _____

18) Mike and Julie receive $20,000 in gifts from friends and relatives for their wedding. They deposit the money into an account that pays 4.75% interest compounded daily. Will their money double in 14 years? Explain how you know.

> Equation:

Formula: _____

19) In addition to being paid $500 each week, a waitress is tipped at a rate of 20%. If she serves $1,000 worth of food during the week, what amount will she earn in a week?

> Equation:

Formula: _____

20) In Pokemon Go, experience required to level-up triples each level. To reach level 1, you need 1,000 EXP points. How many do you need to reach level 10?

> Equation:

Formula: _____