Exploring the World of Math

Name: _____   Date: _____

1. The store is offering discounts on all purchases. Calculate the cost of the following:

   a. 20 lbs of chicken for $0.75 per pound and a 10% discount

   b. 3 pairs of pants for $27.99, 32.65 and $19.75 and a 70% discount

   c. 4 pairs of shoes for $35 each and a 40% discount

   d. 55% off the purchase of a new television set for $899

   e. 60% off a purchase of $175

2. We will purchase a new $30000 car. We were in a hurry and we only reduced the price of the car to $26500 which includes fees and taxes. We will trade in our old car for $6500. We will finance the balance for 60 months at 2.5% interest. Fill out the formula to calculate the monthly finance charge.

3. Our employer will match dollar for dollar for retirement investments up to 8% of our salary per year, so we elect to put that much into the account. This year we made $35,568.35. What will our <u>total</u> investment be at the end of the first year?

4. Terrance, the Vet Tech is involved in purchasing three small test chambers for the local clinic. Each environmental chamber will cost $6200 apiece. What is the simple interest on a 4.25% business loan for 60 months using the I=PRT formula? I is the interest, P is the loan amount, R is the interest rate and T is the time in years. Adding the Interest to the loan amount, what is the total cost of the test chambers?

5. Tyrone is planning to purchase a new car from a dealership. It is stickered at $26000. It is built (the SFC) for 15% of the sticker price and sold to the dealership at 225% of the SFC. What is the cost to build the car? If you offer the dealer 375% of the SFC, how much will the make compared to what they paid?

6. The Network Administrator measured the bandwidth at 4.25 Megabits per second. The advertised value from the ISP salesperson was 5 Megabits per second. What is the percent of error between the measured and theoretical amount?

7. We save $150 monthly in a retirement savings fund for 50 years. The interest rate is 12 %. Setup the formula for computing your retirement savings. If the answer to the exponent is 391.583396999 what is our estimated savings at the end of 50 years?
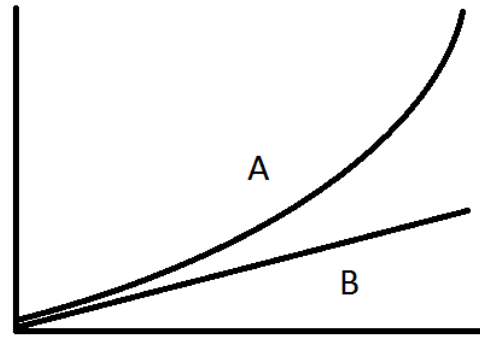
8. Our graphics business will design professional cards for $175, letterhead for $85 and brochures for $500 for a new client. This is their first order and our policy is to receive 35% down payment. What is the down payment amount and the balance due?

9. This month, we had a new baby and we decide to put $1500 in a college stock fund that earns 10% annually. After 19 years, we open the fund. Show your work. If the answer to the exponent is 6.115909, estimate the amount of money in the fund.

10. What line represents exponential growth such as an annuity account that has compounding interest of 11%

    [ ]

11. What line represents simple growth such as simple interest using I = PRT

    [ ]

12. We borrow $10000 at an interest rate of 5.5% compounded semiannual for 3 years. What is the future value of the loan? What is the interest on the loan?

13. Plot the Following:

    $y = 0.2\,x^2$

y	x
	0
	2
	4
	6
	8

    $y = 1.25\,x + 2.5$

y	x
	0
	2
	4
	6
	8