**Exploring the World of Math**

Name: _____ Date: _____

**Exponential Growth**

1. Plot the Following:

$y = \frac{1}{4}x$

| y | x |
|---|---|
| | 0 |
| | 5 |
| | 10 |
| | 15 |

$y = \frac{1}{2}x + 10$

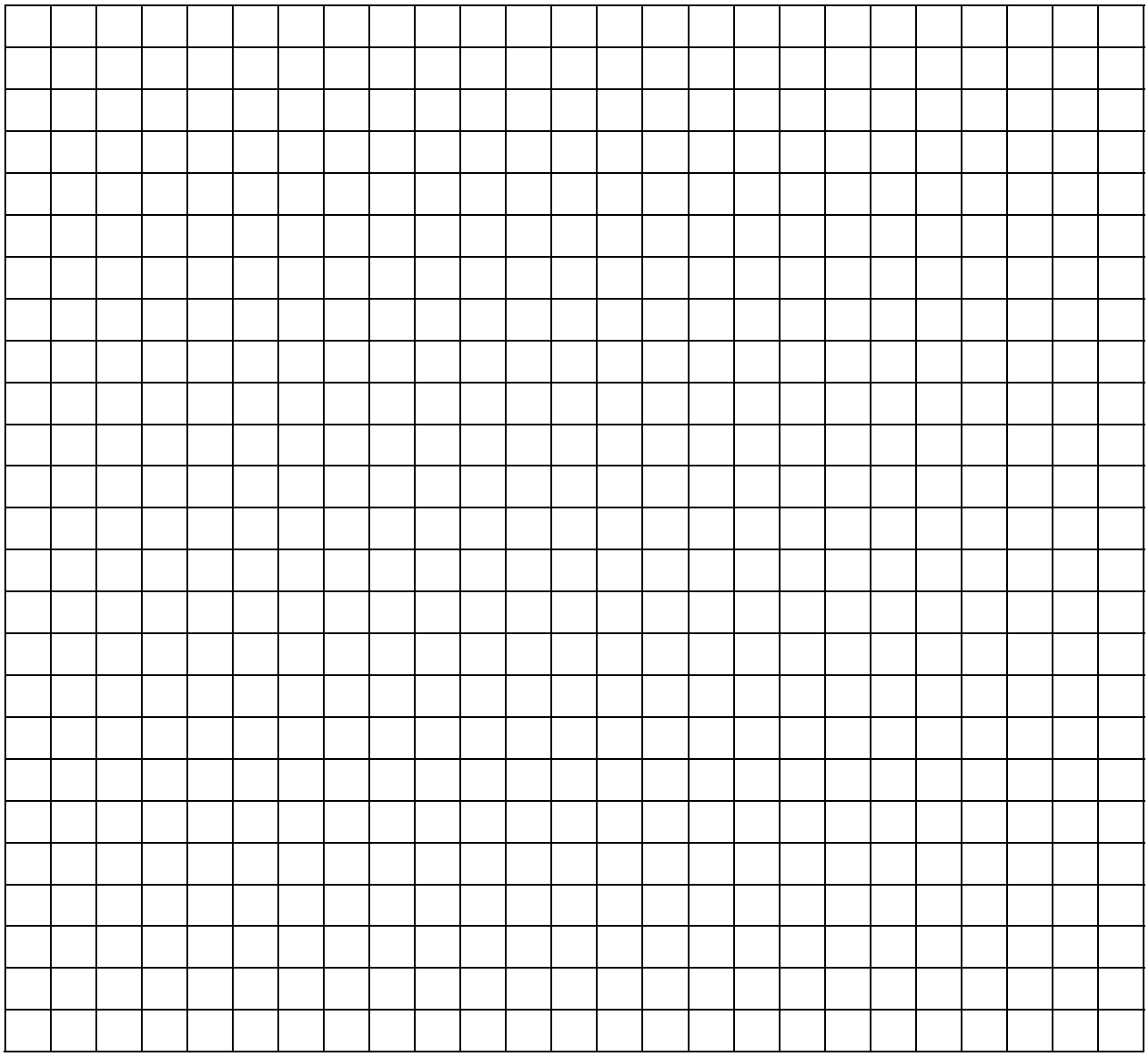
| y | x |
|---|---|
| | 0 |
| | 5 |
| | 10 |
| | 15 |

$y = x^2$

| y | x |
|---|---|
| | 0 |
| | 2 |
| | 4 |
| | 8 |

$y = x^3$

| y | x |
|---|---|
| | 0 |
| | 1 |
| | 2 |
| | 3 |



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**Annual Compounding Interest**

2. During the week you were born, you put $1000 in a college stock fund that earns 11% annually. After 19 years, you open the fund. Estimate the amount of money in the fund.

3. On graduation day from college, you put $1000 in a college stock fund that earns 11% annually. After 48 years, you open the fund. Estimate the amount of money in the fund.

4. Find the future value of an annuity when your payments are $3000 annually with an interest rate of 14% compounded semiannually for 3 years.

5. A $10,000 loan for the Vet clinic compounds semiannually for 2 years. The interest rate is 11 ¼ %. What is the maturity value of the loan?

6. We save $100 monthly in a college savings fund for 19 years. The interest rate is 11 ¼ %. Estimate the amount of money in the fund.

7. We save $100 monthly in a college savings fund for 48 years. The interest rate is 11 ¼ %. Estimate the amount of money in the fund.