Bell Work                                     2/2/2015

What is the equation of a relationship

that starts at 4 and triples?

$$y = (4)(3)^x$$

*Exponential Equations*

# Please get out your work from Friday.

# Notes and assignment.

Name: _____          Date: _____

### EXPONENTIAL GROWTH AND DECAY
### COMMON CORE ALGEBRA I

**Notes**

There are many things in the real world that grow faster as they grow larger or decrease slower as they get smaller. These types of phenomena, loosely speaking, are known as **exponential growth (and decay in the case of decreasing).** In today's lesson, we will look at both growth and decay.

*Exercise #1:* The number of people who have heard a rumor often grows exponentially. Consider a rumor that starts with 3 people and where the number of people who have heard it doubles each day that it spreads.

(a) Why does it make sense that the number of people who have heard a rumor would grow exponentially?

(b) Fill in the table below for the number of people, $N$, who knew the rumor after it has spread a certain number of days, $d$.

| $d$ | 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| $N$ | 3 | 6 | | | | |

Name: _____          Date: _____

### EXPONENTIAL GROWTH AND DECAY
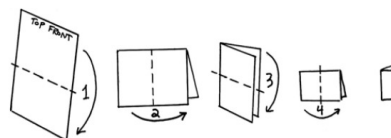### COMMON CORE ALGEBRA I HOMEWORK

**Assignment**

### APPLICATIONS

1. A piece of paper is 0.01 centimeters (cm) thick. When you fold it once, it becomes 0.02 centimeters thick. If you fold it again, it doubles again to 0.04 centimeters thick. Each fold doubles the thickness of the paper.

(a) How thick is the paper after:

   4 Folds:

   5 Folds:

(b) For each of the following number of folds, $f$, show how you can calculate the thickness, $T$,

(c) Determine a formula, based on (b), for the thickness, $T$, based on the number of folds, $f$.

Go over notes and assignment from Friday.

Assign back page from Friday