Name: _____ Period: _____
Integrated 2 Ch.6 Project

Binomial Cube Project

50 POINTS – DUE _____ From Eric Harding and Ryan Martine

$$(X + Y)^3$$

Each of you will build a model to physically represent the algebraic expansion of $(x + y)^3$ using segment lengths given to you in class. You will also build a 30cm x 30cm x 30cm container to hold your model.

Box Construction:
Be careful!!! Give yourself some room. You should make each prism about ¼ to ½ of a centimeter smaller than the actual measurements. You should make the 30cm x 30cm x 30 cm container about ½ of a centimeter larger to give the other boxes room to fit. Everything needs to fit into the 30cm cube. Let x = 20 cm and y = 10 cm.

When finished, your model will:

- Have your Name on every piece of the model. _____5pts
- Be accurately constructed to within 1 cm of given lengths. _____5pts
- Each Prism should be labeled neatly and accurately:
  - Edges _____5pts
  - Faces _____5pts
  - Dimensions _____5pts
  - Which Term in the Expansion (#1, 2, 3, or 4) _____5pts
- Be able to be dismantled into the individual prisms that represent each term of the expansion. _____10pts
- Be strong enough to be handled by others and last until the end of the year. _____5pts

This project is about seeing what happens when you cube a binomial. The area and volume relationships of the model are important. DO NOT spend a lot of money or time getting unique materials to build your cube.

Expansion of $(X + Y)^3$: _____5pts