**Gingerbread House Team Calculations Sheet**

**Part 1:** Using the ruler provided and your draft gingerbread house plans, make the following calculations.

1. Area of each side of the house and area of the roof. Place a STAR next to any values which represent the area of a COMPOUND figure. (Be Sure to Include Units!)
   1. Side 1: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. Side 2: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. Side 3: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   4. Side 4: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   5. Roof Side 1: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   6. Roof Side 2: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   7. Total Area: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Your team would like to make the gingerbread house bigger but none of you can agree on by how much and calculations are due today, your team’s solution is to use the variable “x” to represent by how much you will increase the dimensions of your gingerbread house. Perform the calculations AGAIN but this time use the formula “side length plus x” to represent the dimensions of your gingerbread house. Write the polynomials which will represent the area of each of the following in the lines provided. (Be Sure to Include Units!)
   1. Side 1: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. Side 2: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. Side 3: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   4. Side 4: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   5. Roof Side 1: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   6. Roof Side 2: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   7. Total Area: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Calculate the volume of your gingerbread house without increasing its size AND calculate the volume of your proposed gingerbread house whose side lengths are represented by the formula “side length plus x”. (Be Sure to Include Units!)
   1. Volume of ACTUAL gingerbread house: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. Volume of proposed enlarged gingerbread house: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Part 2:** Use the draft gingerbread house draft plans to do the following:

1. Label each vertex of your team’s gingerbread house a unique letter/designation (I.e. Side 1 has vertexes of A, B, C, and D).
2. Name each “face” of your design in a GREEN marker or colored pencil. (i.e. Face ABCD for side 1)
3. Name each “Side” of your design in an ORANGE marker or colored pencil. (i.e. Side AB, Side BC, Side CD etc.).
4. Label ONE angle pair in BLUE which represents an opposite interior angle pair. In the blank below, describe how your group choose those two angles and write their “names” on the line as well.

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1. Label ONE angle pair in PINK which represents a same-side exterior angle pair. In the blank below, describe how your group choose those two angles and write their “names” on the line as well.

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1. Label ONE angle pair in YELLOW which represents a vertical pair. In the blank below, describe how your group choose those two angles and write their “names” on the line as well.

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