

## **Polynomial Project**

- *On a separate sheet of paper, work through each of the questions below. Each individual must have their own answer sheet, and their own paper with the work from each problem.*
- *Your work must be clearly numbered, labeled, and neat. Answers must be in simplified form.*

### **Step 1:**

Write your final answers on the answer sheet given. All answers are polynomial expressions.

1. Find the total area of the Master Bedroom and Master Closet.
2. Find the perimeter of the Master Bedroom and Master Closet.
3. Find the total area of the Bedroom and Closet.
4. Find the total perimeter of the Bedroom and Closet.
5. Find the area of the whole house.
6. Find the perimeter of the whole house.

### **Step 2:**

7. The perimeter of the kitchen and the perimeter of the dining room are exactly the same. Write an equation to represent that the perimeters are equal.
8. Solve the equation you wrote in #7 for  $x$ .
9. You want to put carpet in the Master Bedroom, the Master Closet, the Bedroom, the Closet, and the Living Room. You checked with various stores and the best deal was given by a company who charges \$3.49 per square foot (this includes carpet pad and labor). Calculate the total cost for carpeting these rooms.
10. You want to put vinyl flooring in the Bathroom. When you checked with various stores, the best deal was given by a company who charges \$3.79 per square foot (labor included). Calculate the total cost for the vinyl flooring.
11. You want to put hardwood flooring in the Hallway. You checked with various stores and the best deal was given by a company who charges \$5.99 per square foot plus \$375 for labor. Calculate the total cost for the hardwood flooring.
12. You want to put tile flooring in your Kitchen and Dining Room. You checked with various stores and the best deal was with a company who will charge you \$3.00 per square foot plus \$320 for labor. Calculate the total cost for the ceramic tile flooring.

### **Grading Rubric:**

1-6 = 2 points each      7-12 = 4 points each

### **Partnership participation:**

14 points:

- Equal participation – 50% of each person's handwriting. The grade will be adjusted for each person if effort is not 50/50.
- Communicating & Collaborating

**Total: 50 points.**

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$3x + 5$ Bathroom $2x$		$5x - 3$
$4x - 2$ Bedroom $3x + 3$	$2x - 2$ Hallway $8x + 4$	Master Bedroom $6x - 4$
Closet $2x - 4$ $4x - 2$		Master Closet $x + 1$ $5x - 3$
Living Room $5x - 1$ $4x - 2$		Kitchen $3x - 1$ $5x - 3$
		Dining Room $2x + 2$