UNIT 4 - POLYNOMIAL PROJECT

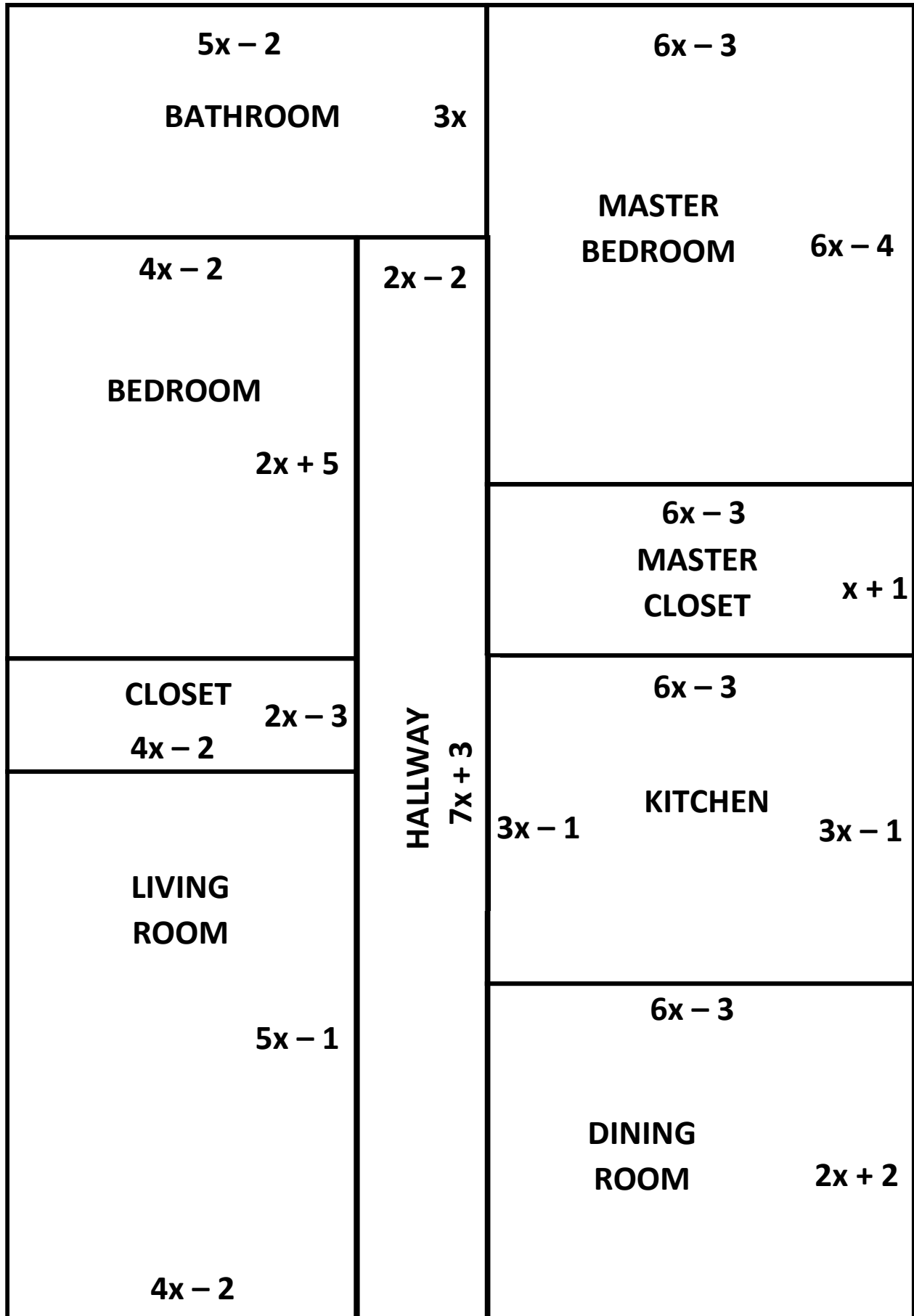**ANSWER SHEET**   **Name:** _____

STEP 1:   **STEP 2:**

1A: _____   9: _____

1B: _____   10: _____

1C: _____   11A: _____

1D: _____   11B: _____

1E: _____   11C: _____

1F: _____   11D: _____

1G: _____   11E: _____

1H: _____   11F: _____

1I: _____   11G: _____

2: _____   11H: _____

3: _____   11I: _____

4: _____   12A: _____

5A: _____   12B: _____

5B: _____   12C: _____

5C: _____   12D: _____

5D: _____   12E: _____

5E: _____   12F: _____

5F: _____   12G: _____

5G: _____   12H: _____

5H: _____   12I: _____

5I: _____   13: _____

6: _____   14: _____

7: _____   15: _____

8: _____   16: _____

                                     17: _____

                                     18: _____

5x − 2

BATHROOM   **3x**

6x − 3

MASTER BEDROOM   **6x − 4**

4x − 2   **2x − 2**

BEDROOM

2x + 5

6x − 3

MASTER CLOSET   **x + 1**

CLOSET   **2x − 3**

4x − 2

6x − 3

HALLWAY 7x + 3

3x − 1   **KITCHEN**   **3x − 1**

LIVING ROOM

5x − 1

6x − 3

DINING ROOM   **2x + 2**

4x − 2

UNIT 4 - POLYNOMIAL PROJECT

This project counts as 1 test grade. The project will be broken into two steps. If you want to know if your work for Step 1 is correct before moving to step 2, the work must be given to me by **Wednesday, December 6**. I will check step 1 and will return it to those students who turn it in early. Students will be able to make revisions on step 1 before they submit their final project.

The polynomial project is due **Wednesday, December 13**.

Late projects will have an automatic 20 point deduction.

Answers must have supporting work which means you must show work in order to receive credit. Unorganized or illegible work will not be graded.

NOTE All dimensions are in feet. Indicate appropriate units on your answer sheet.

GRADING RUBRIC:

> 2 points for each correct answer = 100 points
> 15 points will be deducted if your work is not neat and/or organized.
> 10 points will be deducted if you do not include appropriate units of measure.
> 20 points will be deducted if your project is turned in late.

UNIT 4 - POLYNOMIAL PROJECT

STEP 1: Expressing areas and perimeters as polynomial expressions.

- On a separate sheet of paper work each of the questions below.
- Your work must be clearly numbered, labeled, and neat. Answers must be in simplified form and must include the appropriate units of measure.
- All answers are polynomial expressions.
- Record your answers on the answer sheet.

1. Find the perimeter of each room.
   A. Master Bedroom
   B. Master Closet
   C. Bedroom
   D. Closet
   E. Bathroom
   F. Hallway
   G. Kitchen
   H. Dining Room
   I. Living Room

2. Find the total perimeter of the Master Bedroom and the Master Closet.

3. Find the perimeter of the bedroom, closet, and bathroom.

4. Find the perimeter of the whole house.

5. Find the area of each room.
   A. Master Bedroom
   B. Master Closet
   C. Bedroom
   D. Closet
   E. Bathroom
   F. Hallway
   G. Kitchen
   H. Dining Room
   I. Living Room

6. Find the total area of the Master Bedroom and the Master Closet.

7. Find the total area of the bedroom, closet, and bathroom.

8. Find the area of the whole house.

STEP 2: Calculating areas and perimeters

9. 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.

10. Solve the equation you wrote in #9 for x.

11. Substitute the value you found for x to find the perimeter of each room.
    - A. Master Bedroom
    - B. Master Closet
    - C. Bedroom
    - D. Closet
    - E. Bathroom
    - F. Hallway
    - G. Kitchen
    - H. Dining Room
    - I. Living Room

12. Substitute the value you found for x to find the area of each room.
    - A. Master Bedroom
    - B. Master Closet
    - C. Bedroom
    - D. Closet
    - E. Bathroom
    - F. Hallway
    - G. Kitchen
    - H. Dining Room
    - I. Living Room

13. Substitute the value you found for x to find the perimeter of the whole house.

14. Substitute the value you found for x to find the area of the whole house.

15. 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 found that the best deal was given by a company who will charge you $3.49 per square foot (this includes the carpet pad and labor). Calculate the total cost for carpeting these rooms.

16. You want to put vinyl flooring in the Bathroom. You checked with various stores and found that the best deal was given by a company who will charge you $3.79 per square foot (this includes the carpet pad and labor). Calculate the total cost for the vinyl flooring.

17. You want to put hardwood flooring in the Hallway. You checked with various stores and found that the best deal was given by a company who will charge you $5.99 per square foot plus $375 for labor. Calculate the total cost for the hardwood flooring.

18. You want to put ceramic tile flooring in your Kitchen and Dining Room. You checked with various stores and found that the best deal was given by a company who will charge you $3.00 per square foot plus $320 for labor. Calculate the total cost for the ceramic tile flooring.