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A Balanced Approach to Assessment

Geometry B - Chapter 9 Performance Assessment - Measurements of Plane Figures

Objective:

- Create the design layout on graph paper for one story of a home using the geometric figures studied in this chapter.

Standards:

- 9.3.1.2: Compose and decompose two- and three-dimensional figures; use decomposition to determine the perimeter, area, surface area and volume of various figures.
- 9.3.1.3: Understand that quantities associated with physical measurements must be assigned units; apply such units correctly in expressions, equations and problem solutions that involve measurements; and convert between measurement systems.
- 9.3.1.4: Understand and apply the fact that the effect of a scale factor k on length, area and volume is to multiply each by k , k^2 and k^3 , respectively.
- 9.3.1.5: Make reasonable estimates and judgments about the accuracy of values resulting from calculations involving measurements.
- 9.4.3.8: Apply probability concepts to real-world situations to make informed decisions.

Product Checklist:

- The design must include the following figures. (5 points)
 - Three different special quadrilateral (parallelogram, rectangle, rhombus, square, kite, trapezoid)
 - Two triangles
 - One regular polygon
 - One circle
- The figures should accurately drawn with congruent sides where necessary and appropriate angle measures. (10 points)
- The design must have at least one of the following rooms. (5 points)
 - Kitchen
 - Bathroom
 - Living Room
 - Bedroom
 - Dining Room
- An appropriate scale must be used and clearly shown on the design. (5 points)
- The area of each room must be correctly calculated and rounded to the nearest tenth of a square unit when necessary. Label each room with its size. (15 points)
- Give the total area of the home. (5 points)
 - Check for progress with assigned partners. Partners will look for correct usage of figures and the correct areas.
- Answer the **additional questions** on the back of this sheet. (6 points)

Additional Questions:

1. The contractor has found that your triangular room needs to be increased in size. If you were to triple the base and height of the triangular room, what is the effect on that room's area?
2. The contractor has found that your rectangular room is too big. If you were to cut the base and height of the rectangular room in half, what is the effect on that room's area?
3. Oh no, you have lost your car keys! Using the areas that you found for your rooms, what is the probability that your keys are in the bathroom?