Student Mathematician: **Date:**

Exploring the Fun House!

Answer Sheet

Measure the shapes on the Funkytown Fun House to the nearest half centimeter. You may want to make a table to help you organize the measurements. Then answer the following questions.

Measurements of distinct sides (all in cm):
Trapezoids – A = 14 × 20 × 6, O = 3.5 × 5 × 1.5, R = 3 × 4 × 1.5
Rectangles – B = 12 × 2, C = 20 × 9.5, D = 9 × 2, F = 4.5 × 1, L = 6 × 3, P = 2 × 1
Squares – G = 2, Q = 1.5
Triangles – E (right) = 6 × 4.5 × 7.5, H (equilateral) = 1.5, N (right) = 1.5 × 2 × 2.5
Pentagons – I (regular) = 1, J (regular) = 1.5, M (irregular) = 1.5 × 2.5 × 1.5 × 2.5 × 1.5

1. There are six different pairs of similar figures in the Funkytown Fun House on the previous page. List the shapes that are similar.

   Trapezoids A and O, Rectangles D and F, Rectangles L and P, Squares G and Q, Triangles E and N, Pentagons I and J

2. For each pair of similar shapes, form a ratio that compares the measurements of distinct corresponding sides. Some figures, like a rectangle, have only two distinct sides so you will have two ratios. Other figures will have a different number of distinct side lengths, and you will need to construct the same number of ratios as distinct side lengths.

   Trapezoids A and O – 14 cm to 3.5 cm, 20 cm to 5 cm, 6 cm to 1.5 cm
   Rectangles D and F – 9 cm to 4.5 cm, 2 cm to 1 cm
   Rectangles L and P – 6 cm to 2 cm, 3 cm to 1 cm
   Squares G and Q – 2 cm to 1.5 cm
   Triangles E and N – 4.5 cm to 1.5 cm, 6 cm to 2 cm, 7.5 cm to 2.5 cm
   Pentagons I and J – 1 cm to 1.5 cm

3. Examine the ratios for each figure. What relationships do you notice? Explain.

   The ratios in each figure compare corresponding sides. These ratios can be simplified to the same equivalent ratio because the shapes are proportional. For example, the three ratios of corresponding sides in the trapezoids all simplify to 4 to 1 (14 to 3.5, 20 to 5, 6 to 1.5), the ratios in rectangles D and F both simplify to 2 to 1, and so on.