Geometry Works!
The Stage Takes Shape

The popular band the Geometrics wants to play a special concert at your school, but they need a stage crew to help. The first step for the Geometrics Stage Crew is **building an elaborate stage featuring differently shaped sections.**

1 First, the Geometrics want a main stage that is in the shape of a rectangle, measuring a length of 24 feet and a width of 16 feet. What are the perimeter and area of that stage?

Perimeter: **Area:**

2 Second, the band's lead guitarist wants the Geometrics Stage Crew to build a smaller circular stage in front of the main stage that he can step onto and play a solo. The diameter has to be one-third of the length of the main stage. What is the circumference and area? Round your answer to the nearest foot.

Circumference: **Area:**

3 The bass player has a thing for triangles and sees herself on a platform in the shape of a triangle off to the left of the stage. When viewed from above, the right triangle has a height of 8 feet, a base of 6 feet, and a third side (called the *hypotenuse*) of 10 feet. What is the perimeter and area?

Perimeter: **Area:**

BONUS: Of course, the band's three backup singers would like their own stage sections! On a separate piece of paper, design three stage sections. Be sure to label all necessary measurements (examples: side length, height, radius, etc.) and use the correct unit of measure. Then calculate the area and perimeter or circumference of each stage section.