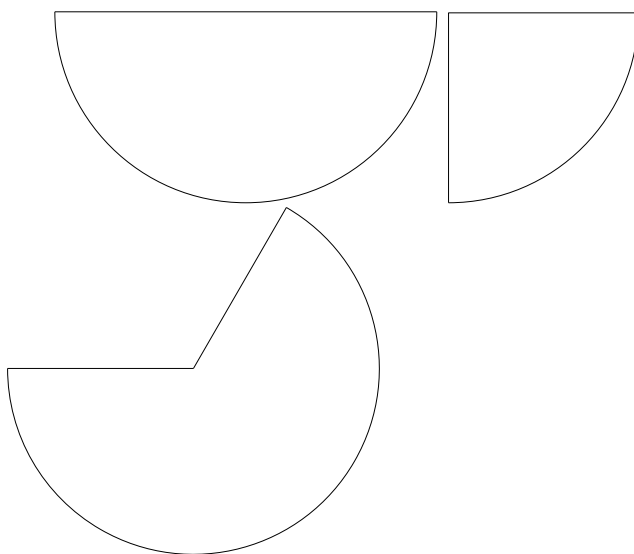


MATH 191 FUNDAMENTALS OF MATHEMATICS II
13/2: PATTERNS AND SURFACE AREA
MARCH 17, 2014

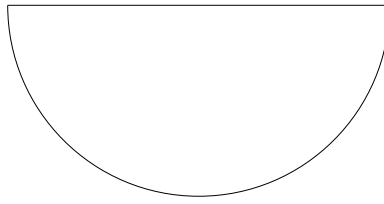
Patterns and Surface Area

1. Sketch the pattern for a prism whose bases are trapezoids with side lengths 2 inches, 5 inches, 8 inches, and 5 inches. Be sure to indicate which sides are identified.

2. Look at the three patterns for cones shown below. Visualize the cones they would make. Can you predict how they will be the same or different?



3. Suppose the pattern for the sides of a cone (not including the base) shown below is made of half a circle with radius 3 cm.



- What is the circumference of the base?
 - What is the radius of the base?
 - What is the surface area of the entire cone, including the base?
 - What is the height of the cone (that is, what is the distance from the top point to the base, measured perpendicularly)?
4. Make a pattern for a pyramid whose base is a square with side lengths 4 inches where the distance from the apex to each of the vertices of the base is 5 inches. What is the surface area of this pyramid?