

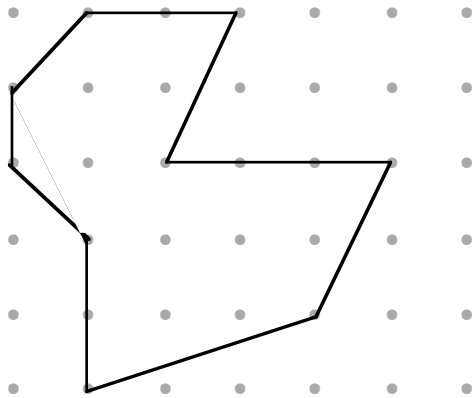
Name _____

Circle all answers (Use $\pi \approx 3.14$ if you are approximating π)

1. $35,000 \text{ dm}^3 = \underline{\hspace{2cm}} \text{ m}^3$, and $4 \text{ ft}^3 = \underline{\hspace{2cm}} \text{ in}^3$.

2. a) Find the area of the lattice polygon below.

b) What is the perimeter?



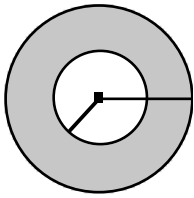
3. Circle the tangram silhouette with the largest area and put a check by the silhouette with the smallest perimeter. (Note: All of the seven tangrams are used to create each silhouette)



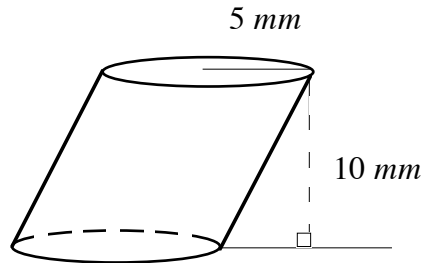
4. The *triaugmented triangular prism* is one of the eight (8) convex deltahedra, ie. all of its 14 faces are equilateral triangles. If this polyhedron has 9 vertices and the length of each edge is 2", a) what is the total length of all the edges of this deltahedron? b) What is its surface area?



5. The shaded area below is called an *annulus*. If the radius of the inner circle is 2 cm and the radius of the outer circle is 5 cm, **a)** what is the area of the annulus? **b)** What is the perimeter of the annulus?



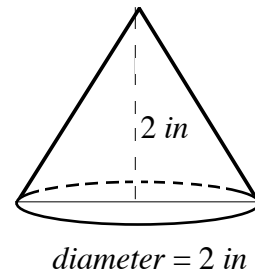
6. Find the surface area **and** the volume for the oblique circular prism (cylinder) below.



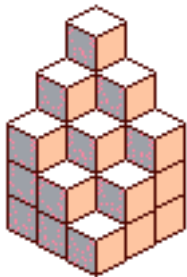
$$S = 2\pi r^2 + 2\pi rh$$

$$V = A_{base}h$$

7. If you double the length of one side of a cube, how many times will the volume increase?
8. How many cones can be made from a 10 in x 10 in sheet of tin if the cones must have the dimensions pictured at the right? ($V = \frac{1}{3}\pi r^2 h$ and $S = \pi rl$)



9. What is the surface area and the volume of the figure below?



10. Find the volume and surface area of a torus whose major radius (R) is 10 inches and whose minor radius (r) is 2 inches.



$$S = 4\pi^2 Rr$$

$$V = 2\pi^2 Rr^2$$

