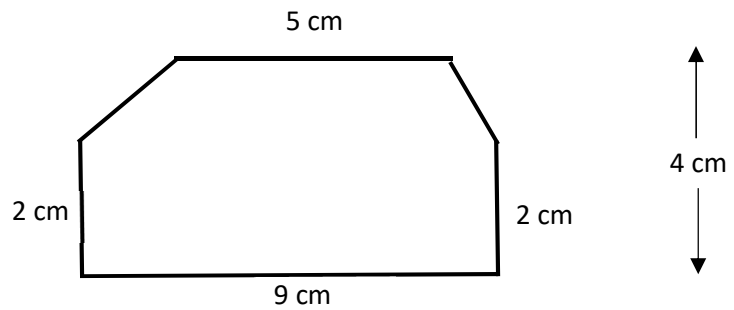


1(8). Consider the shape below right.

Using ONLY the formula for area of rectangles and the moving and additivity principles about area, determine the area of the shape.

Show work so your process is clear.

Segments are congruent, parallel, and perpendicular as they appear.



2. One acre is 43,560 square feet. One mile is 5280 feet.

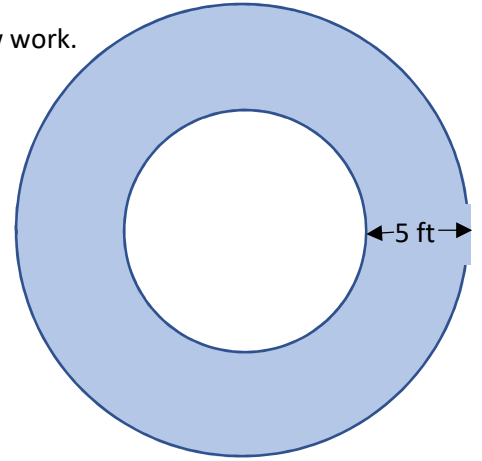
a(6). What is one square mile in acres? Show work.

b(10). Given 1 inch = 2.54 cm (as lengths), what is one square kilometer in acres? Show work. Round final answer to the nearest whole number.

3. A garden path surrounds a circular garden as shown in the diagram. (The shaded region is the path)

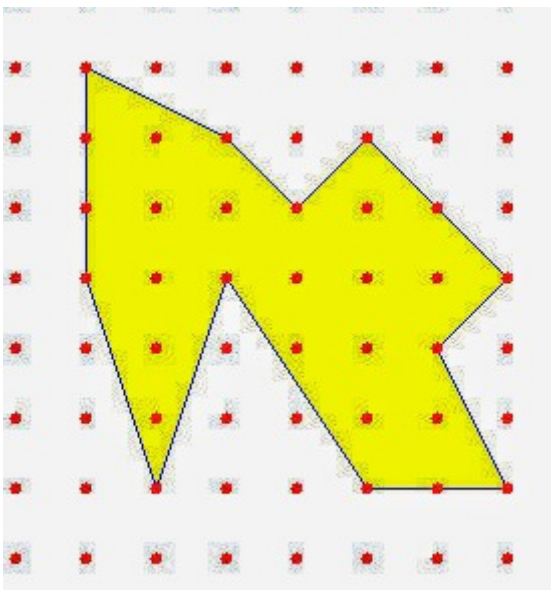
The garden path is 5 feet wide and its outer circumference is 80 feet.

a(10). What is the area of the garden (unshaded portion, inside the path)? Show work. Include appropriate units on your answer.



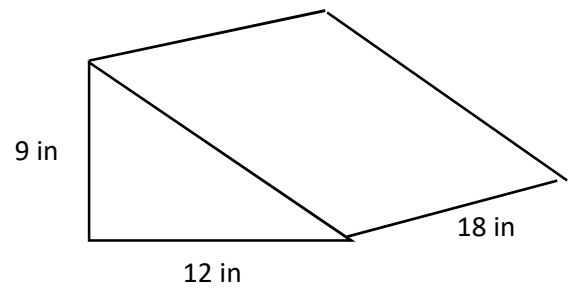
b(8). What is the area of the garden path? Show work. Include appropriate units on your answer.

4(8). Find the exact area of the shape below. Annotate the diagram so your way of thinking is clear.



5. The wedge shown at right is a triangular prism. The triangular face is a right triangle with leg lengths 9 inches and 12 inches as shown.

a(12). Find the surface area of the wedge. Include all faces. Include appropriate units on your final answer. Show work.

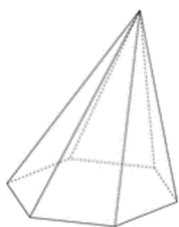


B(8). Find the volume of the wedge. Include appropriate units on your final answer. Show work.

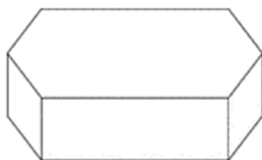
C(6). Convert the volume to cubic yards. Show work.

6(24). Consider the shapes below

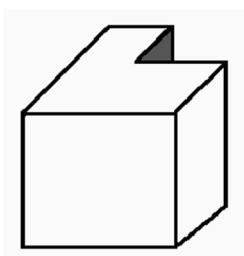
A



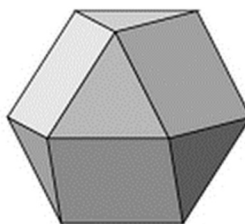
B



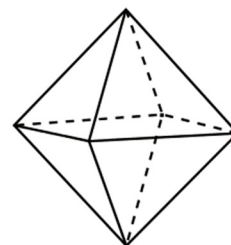
C



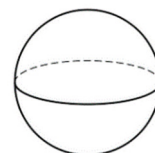
D



E



F



Identify which of the shapes are convex.

Identify which are prisms.

Identify which are polyhedra.

Identify which are Platonic solids (assume segments are congruent as they appear).

Please copy and sign: I pledge on my honor that I have not given or received any unauthorized assistance on this exam. [signed]