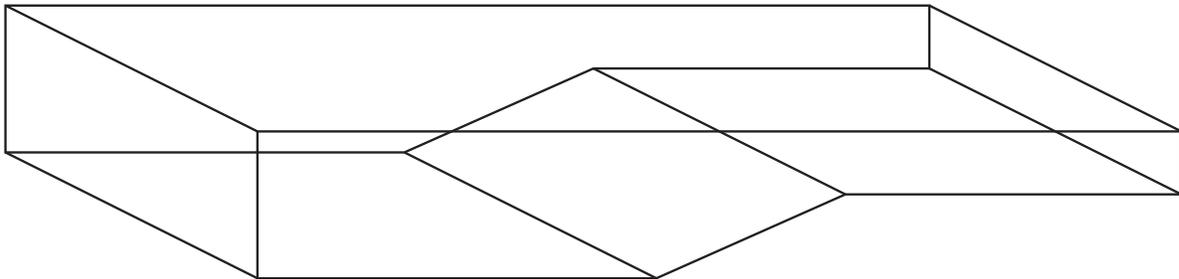


# S W I M M I N G P O O L

Your task is to calculate the surface area of the following pool and the volume of the water contained within it. You will do this by measuring, drawing and calculating as specified below. To make your task simpler, assume that each edge between faces is a line (sharp turn) rather than a gradual curve.

## DIMENSIONS OF THE POOL

The pool is 75 feet long and 40 feet wide. It has two main depths: a shallow end of 4 feet and a deep end of 13 feet (with a slope connecting the two). The shallow end extends 35 feet from the right edge and the deep end extends 28 feet from the left edge.

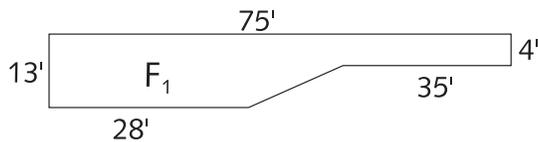


## RECORDING THE LENGTHS OF THE POOL

1) From the data given, label the above diagram by writing the corresponding length next to each edge (line segment).

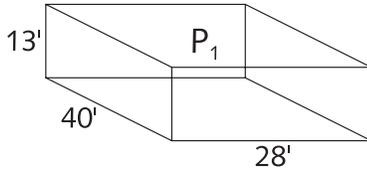
## DRAWING THE POOL

2) Draw a view of each of the seven faces of the pool's surface: all four sides and the three surfaces along the bottom. Draw each view as if you're looking directly (perpendicular) at the face. Label them  $F_1$ ,  $F_2$ , etc. Include the measurements of all the dimensions of each face.



# SWIMMING POOL

- 3) Visually dissect the pool's volume into prisms for which you can easily calculate the volume. Draw a 3-dimensional view of each of the prisms, labeling them  $P_1$ ,  $P_2$ , etc. Include the measurements of all the dimensions of each prism. The first one is shown below.



## SURFACE AREA OF THE POOL

- 4) Show your calculations of the area of each of the faces. Be sure to accurately label each calculation with its corresponding notation. ( $F_1$ ,  $F_2$ , etc.)

## VOLUME OF THE POOL

- 5) Show your calculations of the volume of each of the prisms. Be sure to accurately label each calculation with its corresponding notation. ( $P_1$ ,  $P_2$ , etc.)

