3B: Covering a Triangle

Assume that you covering a triangular-shaped area with tiles that are 10 by 10 inches. The area is an equilateral triangle. The tiles will be arranged in rows with one row aligned with one of the sides. Call this side the base. The height of an equilateral triangle is .866 times the base. The tiles are directional so that when a tile is cut to fit the slope on one edge, the remaining piece of tiles cannot be used anywhere else. The vertical edges do not have to be aligned.

Given the length of the base, calculate the minimum number of tiles that are needed to completely cover the area.

Example 1:

Enter length of a side: 10

Number of tiles: 1

Example 2:

Enter length of a side: 50

Number of tiles: 15