

What three-dimensional geometric shape does the first stage of the Trident II look like?

Answer:

It looks like a cylinder.



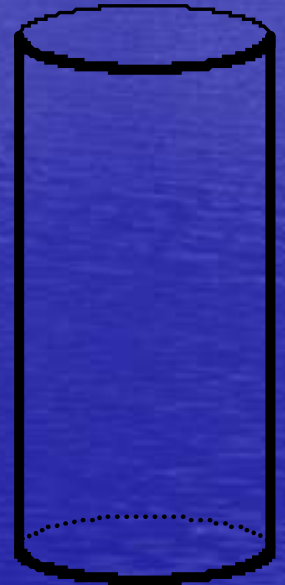
Discuss the second stage, third stage, and nose fairing also.

The first stage section includes the first stage rocket motor, Thrust Vector Control (TVC) system, and the components to initiate the first stage ignition.

If you had to cover the lateral surface area of the first stage with 3 x 5 index cards, what formula would you use to determine how many cards to use?

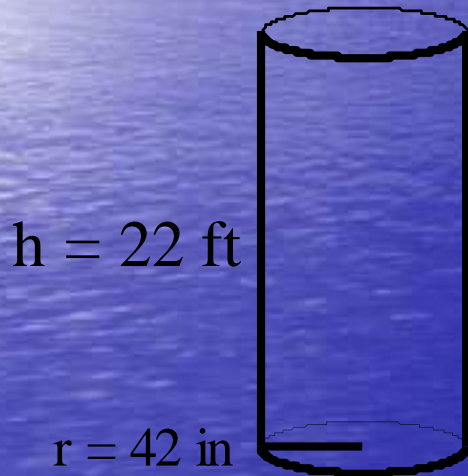
Answer

$$\text{Lateral Surface Area (L)} = 2\pi rh$$

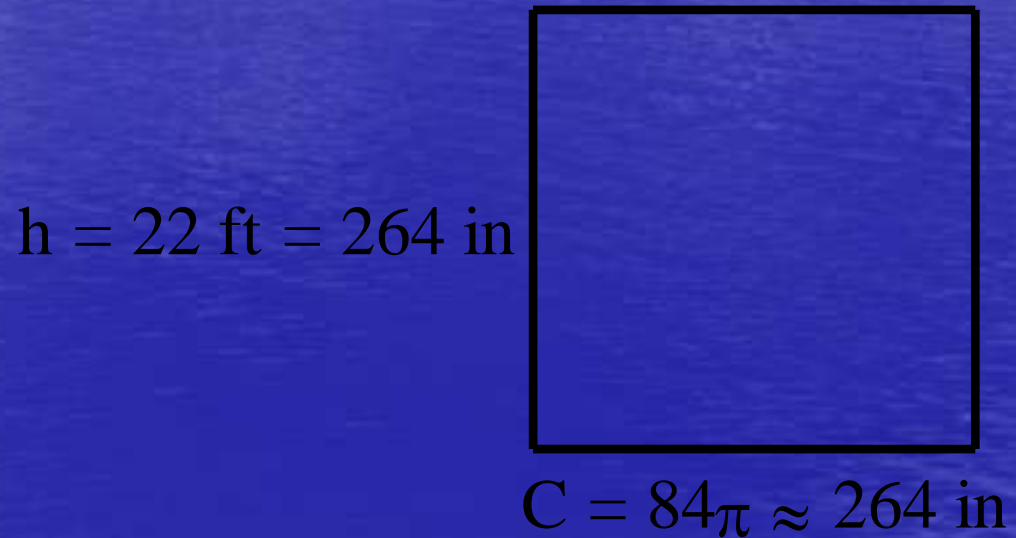


Class discussion: If you had a cylinder the same size as the first stage of a Trident II that were made of paper, and you cut it down the side and unfolded it, what would it look like?

Cylinder



Unfolded Cylinder



Answer: It would look approximately like a square.

Class discussion: Discuss the unfolded shape of the second stage, and third stage also. The height of the second stage is 7 feet with a radius of 42 inches. The height of the third stage is 8 feet with a radius one-third the size of the first stage. Note: the third stage is inside the nose fairing.