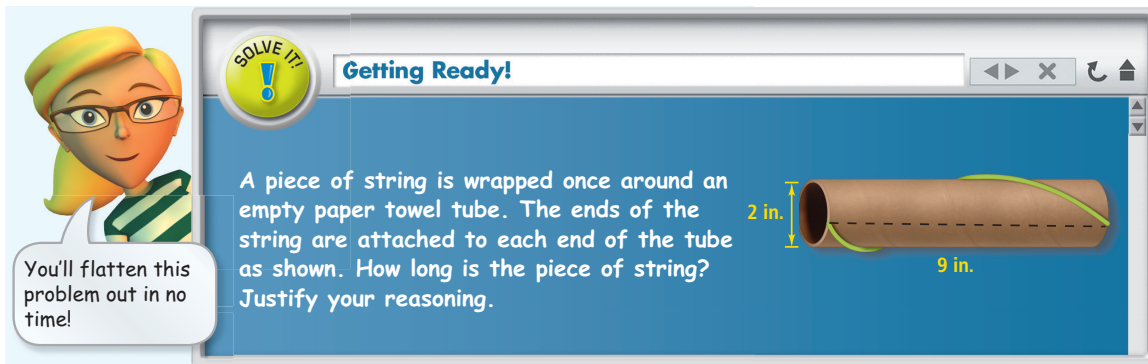


11-2 Solve It!



SOLVE IT! Getting Ready!

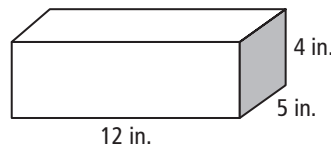
A piece of string is wrapped once around an empty paper towel tube. The ends of the string are attached to each end of the tube as shown. How long is the piece of string? Justify your reasoning.

You'll flatten this problem out in no time!

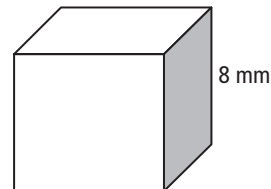
2 in. 9 in.

11-2 Lesson Quiz

1. What is the surface area of the shoe box with the dimensions shown? Use a net.



2. What is the surface area of a cube with 8 mm sides?



3. Do you UNDERSTAND? The pillars in front of Mr. Jefferson's home are shaped like cylinders with a height of 24 ft and a radius of 8 in. What is the lateral area of each pillar?

Answers

Solve It!

≈ 11 in.; The net of the tube is a rectangle 9 in. (length of the tube) by 2π in. (circumference). The string wraps around once, so it is a diagonal of the rectangle. Use the Pythag. Thm. to find the string's length:
 $\sqrt{9^2 + (2\pi)^2} \approx \sqrt{81 + 39.48}$
 ≈ 11 in.

Lesson Quiz

- 256 in.²
- 384 mm²
- about 100.5 ft²