

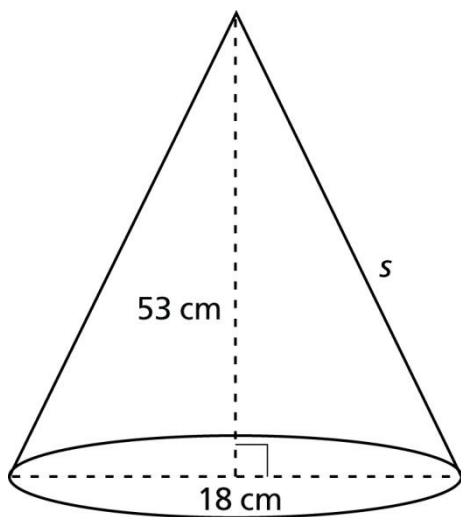
Try This 6 Possible Solutions

TT 6. *Foundations and Pre-calculus Mathematics 10* (Pearson), questions 7, 12, and 16.a) on pages 34 and 35

7. a) $SA = \pi r^2 + \pi rs$
 $SA = \pi(4in)^2 + \pi(4in)(8in)$
 $SA = 50.27 \text{ in}^2 + 100.53 \text{ in}^2$
 $SA = 151 \text{ in}^2$

b) $SA = \pi r^2 + \pi rs$
 $SA = \pi(15cm)^2 + \pi(15cm)(35cm)$
 $SA = 706.86 \text{ cm}^2 + 1649.34 \text{ cm}^2$
 $SA = 2356 \text{ cm}^2$

12. The first thing that needs to be determined is the slant height. The slant height can be determined using the Pythagorean theorem.



The radius is $18/2 = 9 \text{ cm}$.

The hypotenuse of the right triangle with legs of 53 cm and 9 cm is determined this way:

$$\begin{aligned}s^2 &= (9cm)^2 + (53cm)^2 \\s^2 &= 81 + 2809 \\s^2 &= 2890 \\s &= \sqrt{2890} \\s &= 53.76 \text{ cm}\end{aligned}$$

You only need to use the part of the surface area formula that measures the lateral surface area:

$$SA = \pi rs$$

$$SA = \pi(9)(53.8)$$

$$SA = 1520 \text{ cm}^2$$

16a. The radius is $48/2 = 24$ mm

$$SA = \pi r^2 + \pi rs$$

$$7012 \text{ mm}^2 = \pi(24\text{mm})^2 + \pi(24\text{mm})(s)$$

$$7012 = 1809.56 + 75.40s$$

$$5202.44 = 75.40s$$

$$\frac{5202.44}{75.40} = \frac{75.40s}{75.40}$$

$$s = 69 \text{ mm}$$