Surface Areas of Cylinders

Find the total surface areas of these cylinders.

(a) 5 cm, 10 cm

(b) 1 m, 2.5 m

(c) 7 mm, 25 mm

(a) $2\times\pi\times5^2+\pi\times10\times10$
$=150\pi = 471.2\,cm^2$

(b) $2\times\pi\times1^2+\pi\times2\times2.5$
$=7\pi = 22.0\,m^2$

(c) $2\times\pi\times7^2+\pi\times14\times25$
$=448\pi = 1407.4\,mm^2$

Find the total surface areas of these cylinders.

(a) 15 cm, 9 cm

(b) 2.4 m, 5 m

(a) $2\times\pi\times7.5^2+\pi\times15\times9$
$=\frac{315}{2}\pi = 494.8\,cm^2$

(b) $2\times\pi\times1.2^2+\pi\times2.4\times5$
$=\frac{372}{25}\pi = 46.7\,m^2$

Find the total surface areas of these cylinders, leaving your answer in terms of π.

(a) 6 cm, 5 cm

(b) 20 mm, 13 mm

(a) $2\times\pi\times5^2+\pi\times10\times6$
$=110\pi\ cm^2$

(b) $2\times\pi\times10^2+\pi\times20\times13$
$=460\pi\ mm^2$

Find the missing lengths in these cylinders.

(a) 2 cm, h cm

Curved surface area $= 54\pi\ cm^2$

(b) 20 cm, h cm

Total surface area $= 345\pi\ cm^2$

(a) $\pi\times4\times h = 54\pi$
$h = 13.5\,cm$

(b) $2\times\pi\times10^2+\pi\times20\times h = 345\pi$
$200\pi+20\pi h = 345\pi$
$20h = 145$
$h = 7.25\,cm$