EXERCISE 1 – Solution

Find the total surface area of a tube to contain 3 tennis balls of 2 cm radius. No space is permitted between the ball and cylindrical container.

Physical
Model

$2cm$

$2\pi r$

$A = 2\pi r h$

h
$12cm$

$A = \pi r^2$

$A = 2\pi r h$

Total Area $= 2\pi r^2 + 2\pi r h$ ← Maths Model

$= 2\pi r (r + h)$

$= 2\pi (2)^2 + 2\pi (2)(12)$

$= 8\pi + 48\pi$

$= 56\pi \ cm^2$

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