

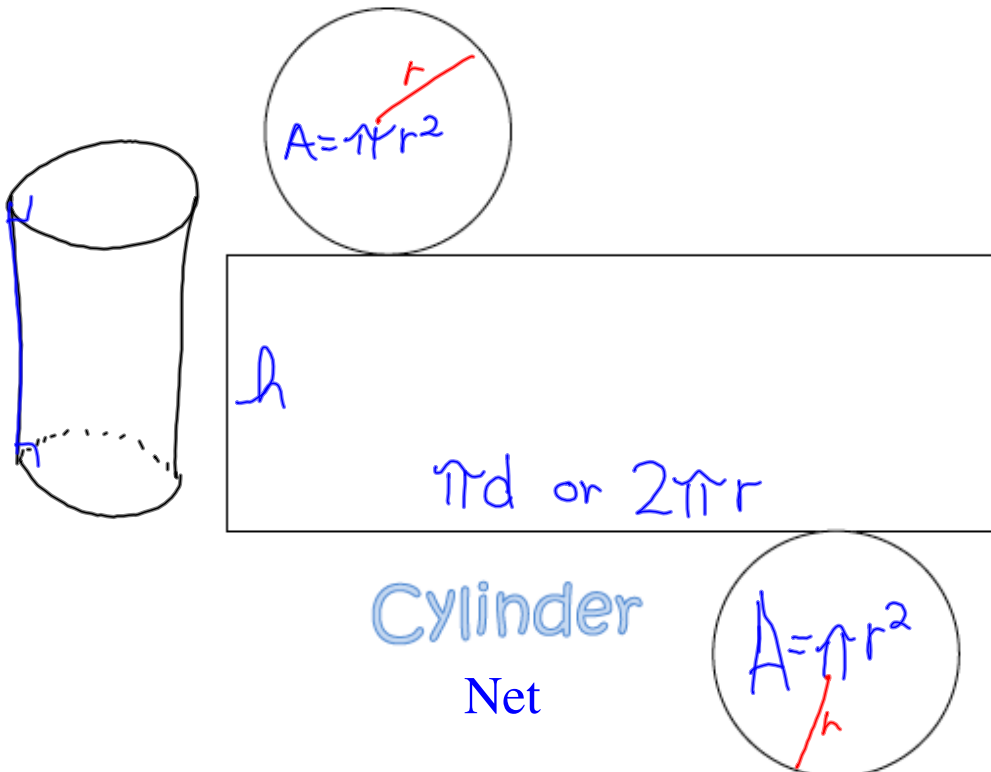
LAUNCH

## Investigating a cylinder



If you unwrapped the label on this can and laid it flat, what shape would it be?

What about the base and the lid?



**CONCEPT**

## Surface area of a cylinder

$h$

Area of the rectangle

$\pi d$

+

Area of the lid

$\pi r^2$

+

Area of the base

$\pi r^2$

**S.A. =**

$$\cancel{2\pi r^2} + 2\pi r^2$$

$$\pi d h$$

ANSWER

**PRACTICE**

## Find the surface area of this cylinder

$r = 4$  in

12 in

**Surface area =**  $2\pi r^2 + \pi d h$

$= 2(3.14)(16) + (3.14)(8)(12)$

$= 100.48 + 301.44$

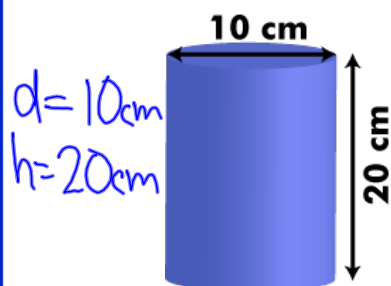
$= 401.92$

**Surface area =**  $401.92 \text{ in}^2$

STRETCH

Which cylinder has the greatest surface area?

$$\text{S.A.} = 785 \text{ cm}^2$$



$$d = 10 \text{ cm}$$

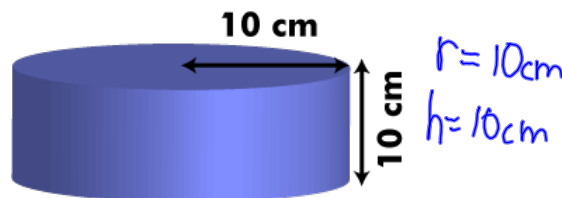
$$h = 20 \text{ cm}$$

$$\text{SA} = 2\pi r^2 + \pi d h$$

$$\text{SA} = 157 + 628$$

$$\text{SA} = 785$$

$$\text{S.A.} = 1256 \text{ cm}^2$$



$$r = 10 \text{ cm}$$

$$h = 10 \text{ cm}$$

$$\text{SA} = (2)(3.14)(100) + (3.14)(20)(10)$$

$$= 628 + 628$$

$$= 1256$$

# Assignment

## 7th Grade Lesson 7-2b

Pgs. 259-260 #12-23 all