

# Chapter 5 Practice Test

## Answers pg 190-191

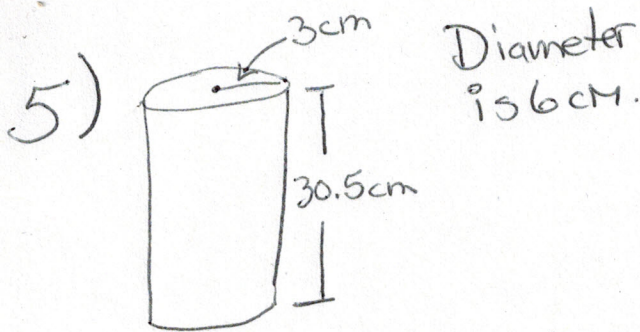
1) Top View  
D Rectangle

2)  $49 \text{ cm}^2 \times 6 = 294 \text{ cm}^2$  (total SA)  
(cube has 6 identical sides).

3) D. Rectangular Prism

4) Total Surface Area (SA)

Front & Back  $18 \times 5 \times 2 = 180 \text{ mm}^2$   
Left Side & Right Side  $20 \times 5 \times 2 = 200 \text{ mm}^2$   
Top & Bottom  $18 \times 20 \times 2 = 720 \text{ mm}^2$   
Total SA 1100 mm<sup>2</sup>



Top & Bottom Circle Area

$$A = \pi r^2 \quad 3.14 \times 3 \times 3 = 28.26 \times 2 = \underline{\underline{56.52 \text{ cm}^2}}$$

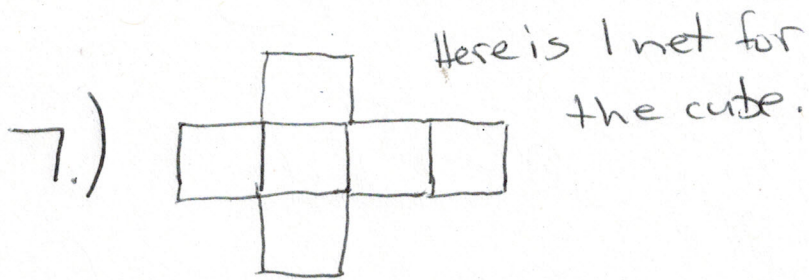
$$C = \pi d \quad 3.14 \times 6 \text{ cm} = 18.84 \text{ cm}$$

2 circles.

$$18.84 \text{ cm} \times 30.5 \text{ cm} = 574.62 \text{ cm}^2$$

(area of rectangle)

$$\text{Total SA} = \underline{\underline{56.52 \text{ cm}^2 + 574.62 \text{ cm}^2}} = \underline{\underline{631.14 \text{ cm}^2}}$$



8) Rectangular Prism DVD case.

Front & Back	$13.5 \times 19 \times 2 = 513 \text{ cm}^2$
Left & Right	$19 \times 1.4 \times 2 = 53.2 \text{ cm}^2$
Top & Bottom	$13.5 \times 1.4 \times 2 = 37.8 \text{ cm}^2$
Total SA	<u><u>604 cm<sup>2</sup></u></u>

9) SA of a cube is  $1014 \text{ cm}^2$  so what is 1 side length. (all sides are equal)

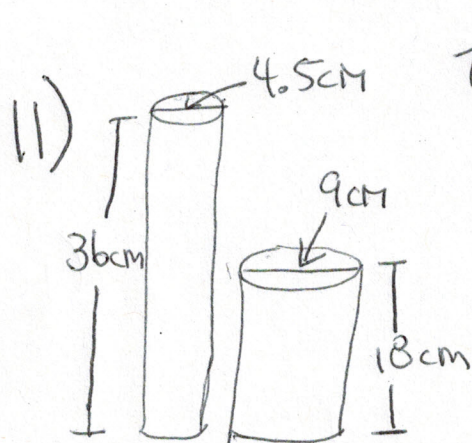
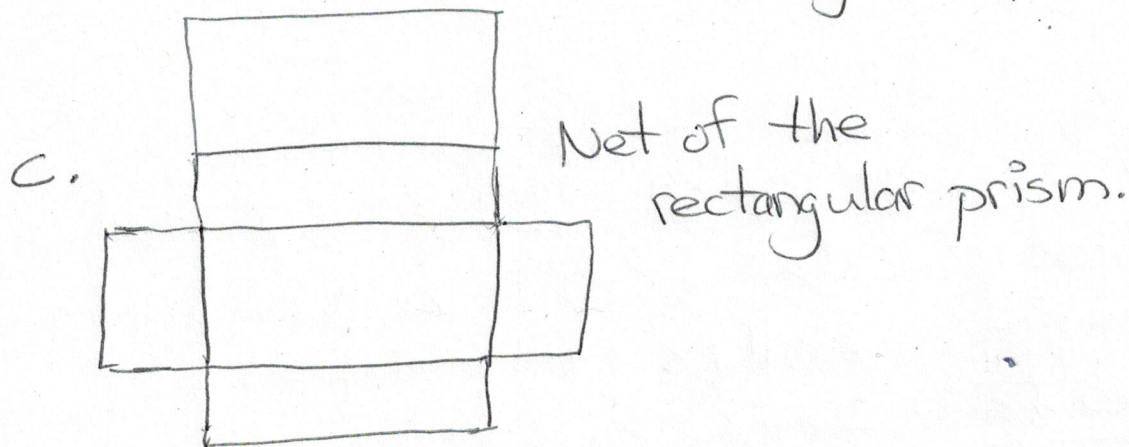
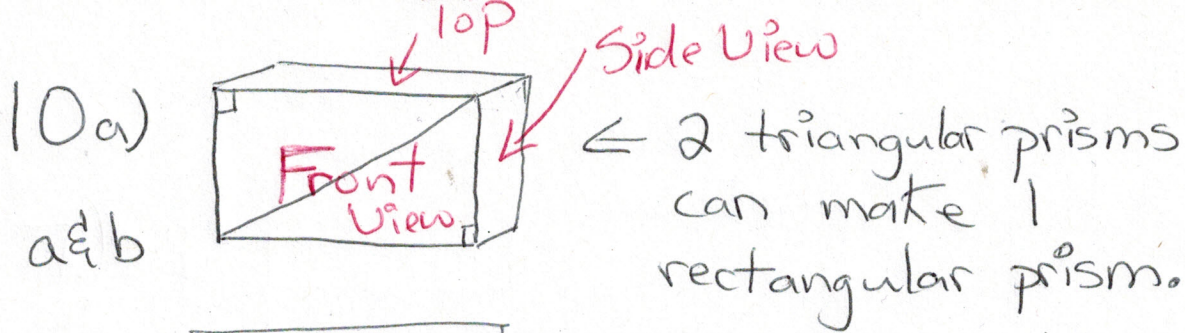
$$\text{Total} \div 6 =$$

$$1014 \div 6 = 169 \text{ (Area of 1 side)}$$

cm<sup>2</sup>

→ Dimension of 1 square is?

$$\sqrt{169} = \underline{\underline{13 \text{ cm}}} \leftarrow \text{Answer!}$$



Total SA of Arika's Cylinder  
2 circles. Area

$$\pi \times r \times r \times 2 = 3.14 \times 2.25 \times 2.25 \times 2$$
~~$$3.14 \times 4.5 \times 4.5 \times 2 = 127.17 \text{ cm}^2$$~~

$$= 31.7925 \text{ cm}^2$$

Rectangle Area

$$\pi \times d \times h = 3.14 \times 4.5 \times 36 = 508.68 \text{ cm}^2$$

$$\text{Total SA} = 540.4725 \text{ cm}^2$$

↑ Arika's Cylinder  
↑ Ken's Cylinder

Total SA of Ken's Cylinder  
2 circles

$$\pi \times r \times r \times 2$$

$$3.14 \times 4.5 \times 4.5 \times 2 = 127.17 \text{ cm}^2$$

Rectangle Area

$$\pi \times d \times h$$

$$3.14 \times 9 \times 18 = 508.68 \text{ cm}^2$$

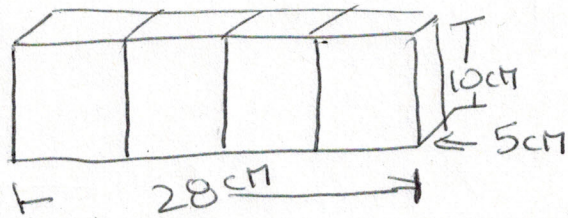
$$\text{Total SA} = 127.17 \text{ cm}^2$$

$$+ 508.68$$

$$\hline 635.85 \text{ cm}^2$$

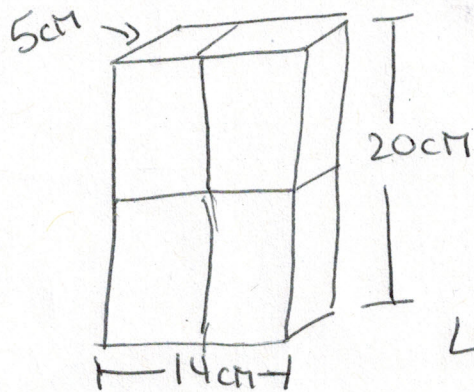
Ken's cylinder has greatest SA.

## 12) Ideal (Arrangement 1)



$$\begin{array}{r}
 \text{Front/Back} \quad 28 \times 10 \times 2 = 560 \text{ cm}^2 \\
 \text{Top/Bottom} \quad 28 \times 5 \times 2 = 280 \text{ cm}^2 \\
 \text{Left \& Right Side} \quad 10 \times 5 \times 2 = 100 \text{ cm}^2 \\
 \hline
 \text{Total SA} \quad \underline{940 \text{ cm}^2}
 \end{array}$$

## Idea 2 (Arrangement 2)



$$\begin{array}{r}
 \text{Front/Back} \quad 14 \times 20 \times 2 = 560 \text{ cm}^2 \\
 \text{Top/Bottom} \quad 14 \times 5 \times 2 = 140 \text{ cm}^2 \\
 \text{Left \& Right Side} \quad 20 \times 5 \times 2 = 200 \text{ cm}^2 \\
 \hline
 900 \text{ cm}^2
 \end{array}$$

Arrangement 2 uses the least plastic wrap, due to taking up less surface area.