

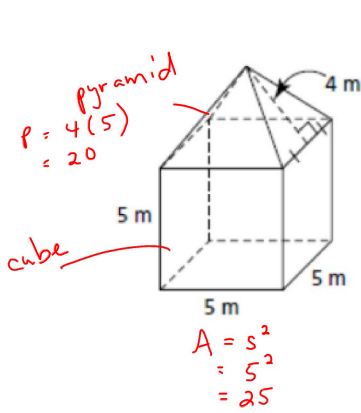
MAAPC20S

Measurement

Lesson 6

**Example 1 – Determining the Surface Area of a Composite Object**

Determine the surface area of this composite object.



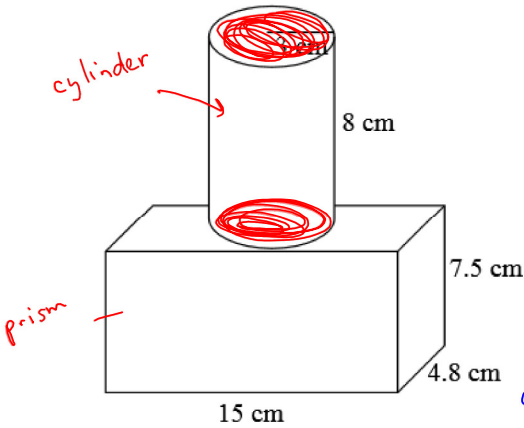
Pyramid (LSA)  
 $LSA = \frac{Ps}{2}$   
 $= \frac{20(4)}{2}$   
 $= 40 m^2$

Cube (5 sides showing)  
 $A = 5(25)$   
 $= 125 m^2$

$SA = 40 + 125$   
 $= 165 m^2$

**Example 2**

Determine the surface area of the following complex object to the nearest tenth of a centimeter.



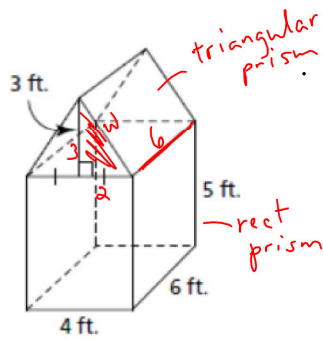
cylinder + top  
 $LSA = 2\pi rh + \pi r^2$   
 $= 2\pi(3)(8) + \pi(3)^2$   
 $= 150.796 \dots$

rect prism  
 $SA = 2lw + 2lh + 2wh$   
 $= 2(15)(4.8) + 2(15)(7.5) + 2(4.8)(7.5) - \pi(3)^2$   
 $= 441 cm^2$

Total =  $591.8 cm^2 + 28.27 \dots - 28.27 \dots$

**Example 3 – Solving a Problem Related to a Composite Object**

A tool shed is formed by a rectangular prism with a triangular prism as its roof. Determine the surface area of the tool shed to the nearest square foot.



$$\begin{array}{c}
 \begin{array}{c} 3 \\ \diagdown \\ \hline 2 \end{array} \\
 3^2 + 2^2 = w^2 \\
 13 = w^2 \\
 \sqrt{13} = w
 \end{array}$$

Triangular prism

2 triangles and

$$\begin{aligned}
 A &= \frac{bh}{2} \times 2 \\
 &= \frac{4(3)}{2} \times 2 \\
 &= 12 \text{ ft}^2
 \end{aligned}$$

2 rectangles

$$\begin{aligned}
 A &= lw \times 2 \\
 &= 6(\sqrt{13}) \times 2 \\
 &= 43.2666\dots
 \end{aligned}$$

Rect prism

bottom 2 sides front & back

$$\begin{aligned}
 A &= 6(4) + 2(5)(6) + 2(5)(4) \\
 &= 124 \text{ ft}^2
 \end{aligned}$$

$$\begin{aligned}
 SA &= 12 + 43.2666\dots + 124 \\
 &= 179 \text{ ft}^2
 \end{aligned}$$

**Assignment:** Day 1; Pg 59; 5 (only volume), 7 (a,c,d), 8, 9, 10

Day 2; Pg 59; 3, 5 (surface area), 6

Review pg 64-67