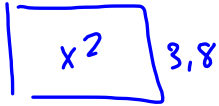


Big F/B

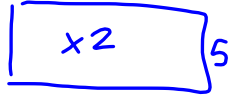


$$A = bh$$

$$= 7.8 \times 3.8$$

$$\begin{array}{r} 29.64 \\ \times 2 \\ \hline 59.28 \end{array}$$

T/B

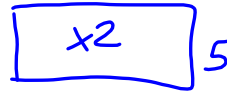


$$A = b \times h$$

$$= 7.8 \times 5$$

$$\begin{array}{r} 39 \\ \times 2 \\ \hline 78 \end{array}$$

sides



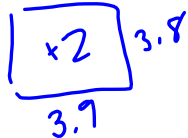
$$A = bh$$

$$= 3.8 \times 5$$

$$\begin{array}{r} 19 \\ \times 2 \\ \hline 38 \end{array} = 175.28$$

Small

F/B

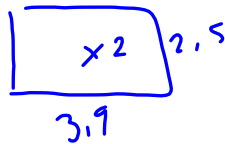


$$A = bh$$

$$= 3.9 \times 3.8$$

$$\begin{array}{r} 14.82 \\ \times 2 \\ \hline 29.64 \end{array}$$

T/B

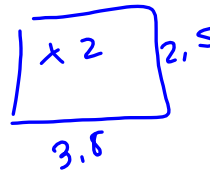


$$A = bh$$

$$= 3.9 \times 2.5$$

$$\begin{array}{r} 9.75 \\ \times 2 \\ \hline 19.5 \end{array}$$

sides



$$A = bh$$

$$= 3.8 \times 2.5$$

$$\begin{array}{r} 9.5 \\ \times 2 \\ \hline 19 \end{array} = 68.14$$

$$175.28 + 68.14 = 243.42$$

$$\begin{array}{r} 243.42 \\ - 27.64 \\ \hline 213.78 \end{array}$$

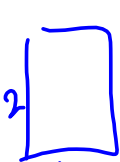
$$213.78$$

No Floor

$$\begin{array}{r} - 39 \\ - 9.75 \\ \hline \end{array}$$

165.03

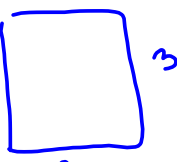
door



$$A = bh$$

$$= 2 \times 2 = 4$$

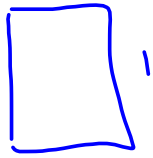
door



$$A = bh$$

$$= 2 \times 3 = 6$$

window



$$A = bh$$

$$= 1 \times 1 = 1$$

$$165.03 - \text{doors} - \text{window} - \text{roof}$$

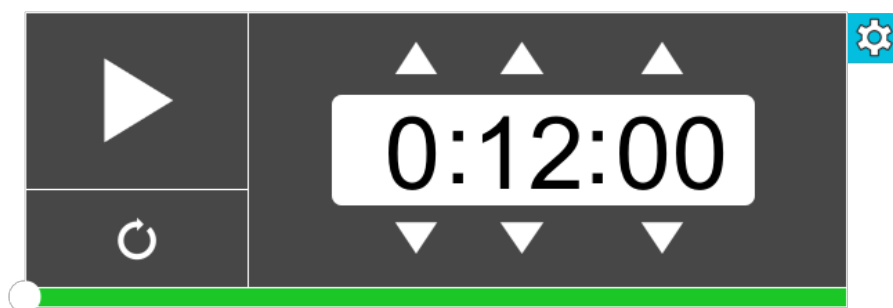
$$165.03 - 2 \times 4 - 1 \times 6 - 9.75 - 39$$

$$107.28 \text{ m}^2$$

$$\begin{array}{r} 107.28 \\ \times 15 \\ \hline \end{array}$$

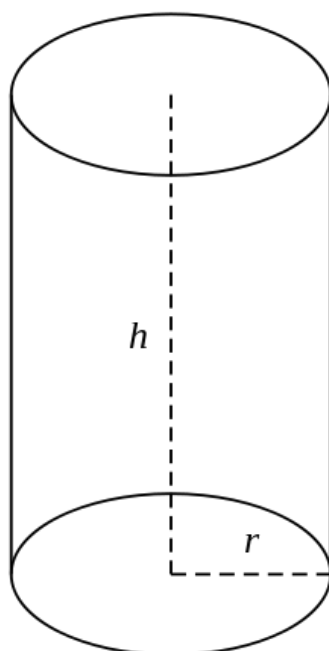
$$\$ 1609.20$$

$$\$ 1609.2$$



Surface Area of a Composite Object With **Cylinders**

Nov. 21/19

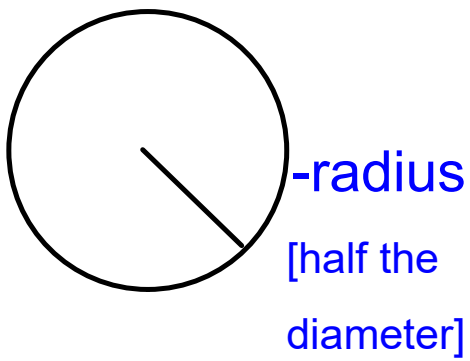


h = height

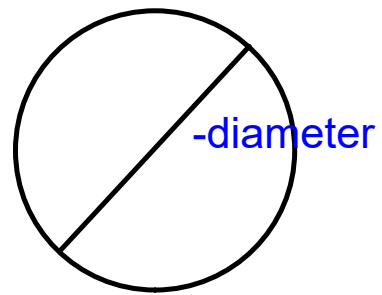
r = radius



Review

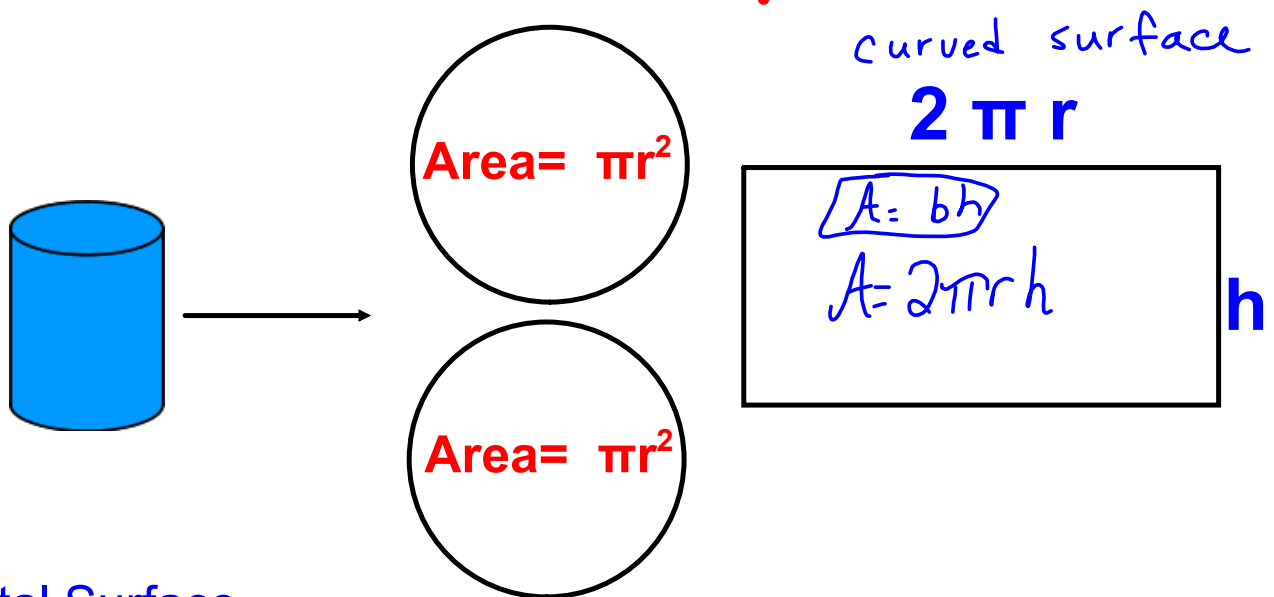


$r = 5\text{cm}$



$d = 10\text{cm}$

Parts of a Cylinder



Total Surface

Area of Cylinder = area of 2 circles + area of curved surface

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

Surface Area
of Cylinder

area of two circles

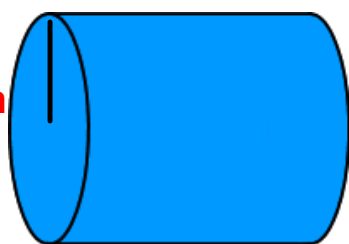
+

area of curved surface

$\pi = 3.14$

8 cm

4 cm



$$SA = 2\pi r^2 + 2\pi r h$$

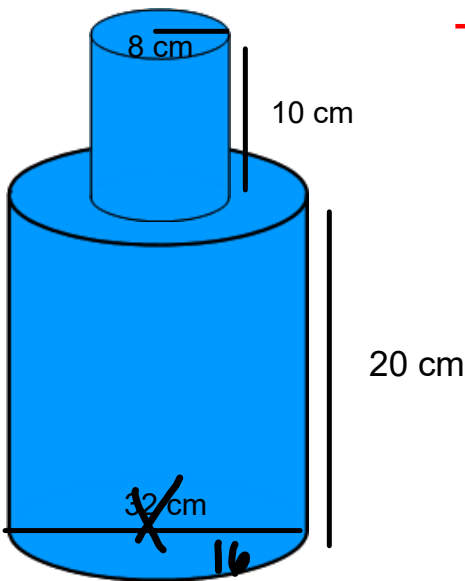
$$= 2(3.14)(4)^2 + 2(3.14)(4)(8)$$

$$= 2(3.14)(16) + 200.96$$

$$= 100.48 + 200.96$$

$$= 301.44 \text{ cm}^2$$

area of
two
circles



Top Cylinder

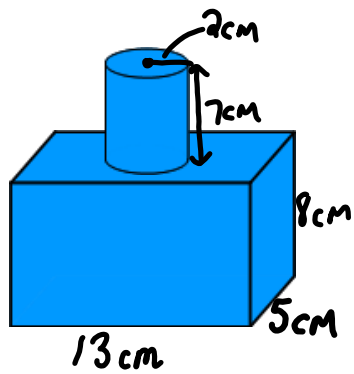
$$\begin{aligned}
 SA &= 2\pi r^2 + 2\pi rh \\
 &= 2(3.14)(8)^2 + 2(3.14)(8)(10) \\
 &= 2(3.14)(64) + 502.4 \\
 &= 401.92 + 502.4 \\
 &= 904.32 \text{ cm}^2
 \end{aligned}$$

SA two circles →

Bottom Cylinder

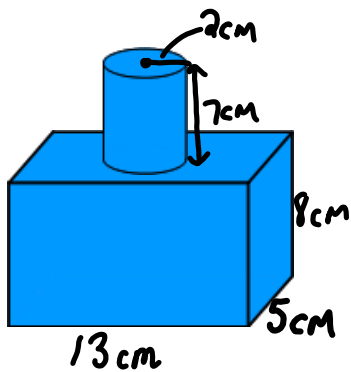
$$\begin{aligned}
 SA &= 2\pi r^2 + 2\pi rh \\
 &= 2(3.14)(16)^2 + 2(3.14)(16)(20) \\
 &= 2(3.14)(256) + 2009.6 \\
 &= 1607.68 + 2009.6 \\
 &= 3617.28
 \end{aligned}$$

$$\begin{aligned}
 SA &= \text{Top} + \text{Bottom} - \text{faces lost} \\
 &= 904.32 + 3617.28 - 401.92 \\
 &= 4119.68 \text{ cm}^2
 \end{aligned}$$



Cylinder $2\pi r^2 + 2\pi r h$

Rectangular Prism



Cylinder $SA = 2\pi r^2 + 2\pi rh$
 $= 2(3.14)(2)^2 + 2(3.14)(2)(7)$
 Area of 2 circles $\rightarrow 25.12 + 87.92$
 $= 113.04$

Rectangular Prism

<p>F/B</p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">x2</div> 8	<p>T/B</p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">x2</div> 6	<p>side</p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">x2</div> 8
<p>13</p> $A = bh$ $= 13 \times 8$ $= 104$ <hr style="width: 50%; margin: 0 auto;"/> <p>208</p>	<p>13</p> $A = bh$ $= 13 \times 5$ $= 65$ <hr style="width: 50%; margin: 0 auto;"/> <p>130</p>	<p>5</p> $A = bh$ $= 5 \times 8$ $= 40$ <hr style="width: 50%; margin: 0 auto;"/> <p>80</p>
<p>+ + + ∴ 418</p>		

TSA: $418 + 113.04$
 $= 531.04 \text{ cm}^2$
 $- 25.12$

505.92 cm^2

$$SA = 2\pi r^2 + 2\pi rh$$

PAGE 40

3 a, b, c

a) 121 cm^2

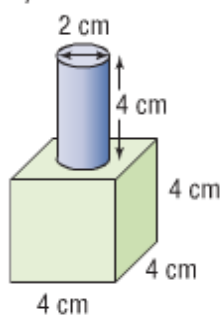
b) 117 cm^2

c) 283 cm^2

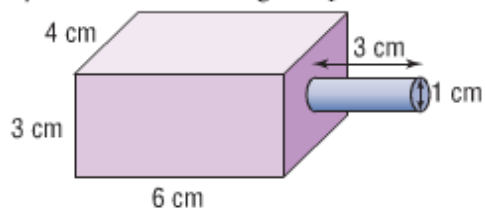
* Use
the
radius

3. Determine the surface area of each composite object. Give the answers to the nearest whole number.

a) cylinder on a cube



b) cylinder on a rectangular prism



c) cylinder on a cylinder

