Section 12-3: Surface Area

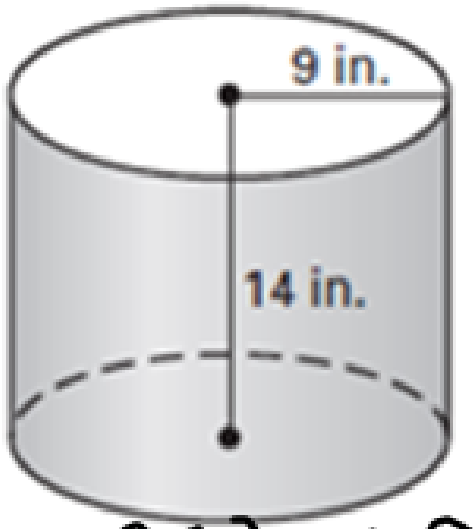
See Worksheet 12-3

Surface Area Formulas

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

Cube: $SA = 6s^2$

1.



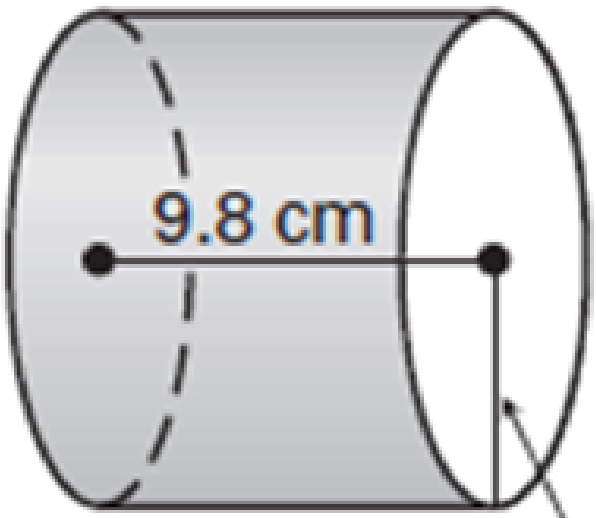
$SA = 2\pi r^2 + 2\pi rh$

$= 2(3.14)(9)^2 + 2(3.14)(9)(14)$

$= 508.68 + 791.28$

$= 1300\ in^2$

2.



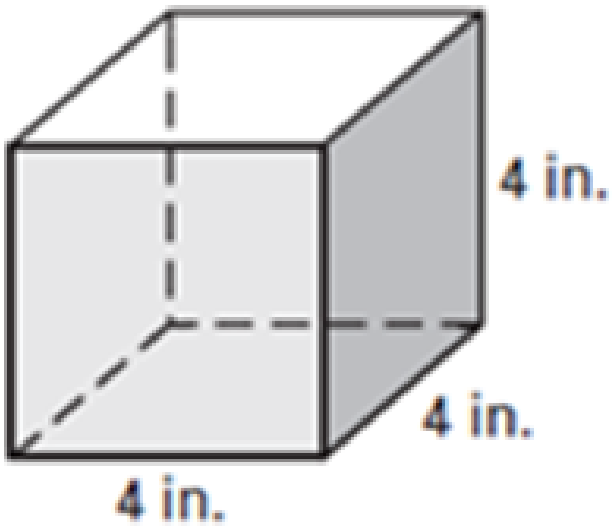
$SA = 2\pi r^2 + 2\pi rh$

$= 2(3.14)(5.2)^2 + 2(3.14)(5.2)(9.8)$

$= 169.8112 + 320.028$

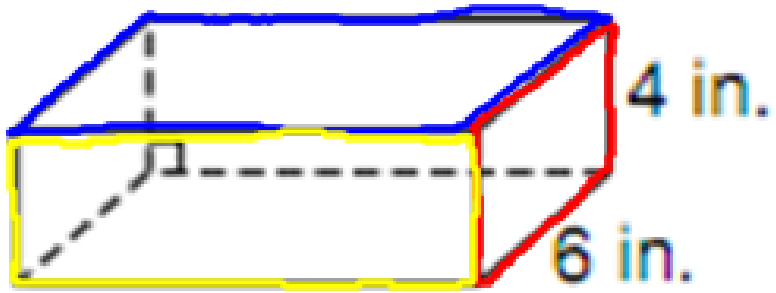
$\approx \boxed{489.8\ cm^2}$

6.



$$SA = 6s^2$$
$$= 6(4)^2$$
$$= 6(16)$$
$$= 96 \text{ in}^2$$

5.



Sides

A = 24 | 4

6

Top

A = 72 | 6

12

Front

A = 48 | 4

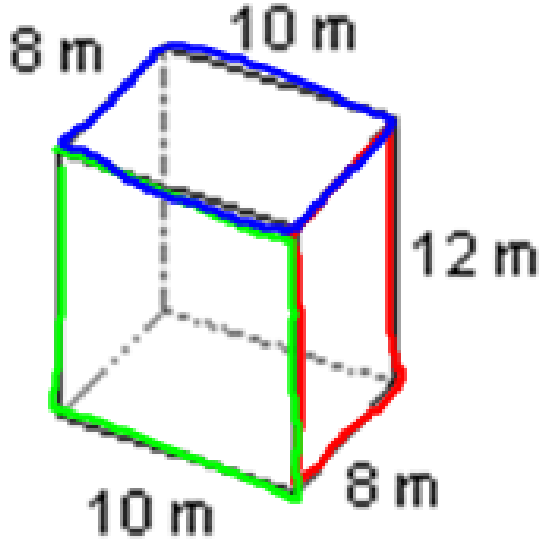
12

$SA = 2(24) + 2(72) + 2(48)$

$= 48 + 144 + 96$

$= 288 \text{ in}^2$

7.



$A = 12 \cdot 8 = 96$

$A = 10 \cdot 12 = 120$

$A = 8 \cdot 10 = 80$

$SA = 2(96) + 2(120) + 2(80)$

$= 192 + 240 + 160$

$= 592\ m^2$