

4. a) Rec Prism

$$T \& B \quad (3 \times 3) \times 2 = 18$$

$$F \& B \quad (3 \times 8) \times 2 = 48$$

$$\text{Sides} \quad (3 \times 8) \times 2 = \frac{48}{114 \text{ m}^2}$$

Cylinder

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

$$2(3.14)(5)^2 + 2(3.14)(5)(8)$$

$$2(3.14)(25) + 251.2$$

$$157 + 251.2$$

$$408.2$$

Overlap:

$$\pi r^2$$

$$3.14(5)^2 \times 4$$

$$3.14(25) \times 4$$

$$= 314$$

Total

$$114 + 408.2 - 314 = 208.2$$

$$208.2 \text{ m}^2$$

b) Big

$$\pi r^2 + \pi r s$$

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

$$3.14(81) + 395.64$$

$$254.34 + 395.64$$

$$= 649.98 \text{ cm}^2$$

Small

$$\pi r^2 + \pi r s$$

$$3.14(3)^2 + (3.14)(3)(5)$$

$$3.14(9) + 47.1$$

$$28.26 + 47.1$$

$$75.36 \text{ cm}^2$$

Top Surface

$$\pi r^2$$

$$3.14(3)^2$$

$$3.14(9)$$

$$= 28.26$$

Total

$$649.98$$

$$- 75.36$$

$$+ 28.26$$

$$= 602.88 \text{ cm}^2$$

$$\begin{aligned}
 11. \quad a) \quad & 2\pi r^2 + 2\pi rh \\
 & 2(3.14)(2.5)^2 + 2(3.14)(2.5)(2) \\
 & 2(3.14)(6.25) + 31.4 \\
 & 39.25 + 31.4 \\
 & = 70.65 \text{ ft}^2
 \end{aligned}$$

Top
Not
Needed

$$\begin{array}{r}
 \pi r^2 \\
 3.14(2.5)^2 \\
 (3.14)(6.25) \\
 = 19.625
 \end{array}
 \qquad
 \begin{array}{r}
 70.65 \\
 - \\
 19.625 \\
 \hline
 = 51.025 \text{ ft}^2
 \end{array}$$

$$b) \quad 52 \text{ ft}^2 \times 8.50 = \$442.00$$