


Problems with the homework?

Surface area of composite shapes. 

a) Box

$$V = V_{\text{base}} + V_{\text{roof}}$$

$$= lwh + \frac{lah}{3}$$

$$= (15)(15)(10) + \frac{(15)(15)(4)}{3}$$

$$= 2250 + 300$$

$$= 2550 \text{ ft}^3$$

V cylinder

$$V = V_{\text{cylinder}} + V_{\text{cone}}$$

$$= \pi r^2 h + \frac{\pi r^2 h}{3}$$

$$= \pi (12)^2 (8) + \frac{\pi (12)^2 (3)}{3}$$


$$= 1152\pi + 144\pi$$

$$= 1296\pi$$

$$= 4071.50 \text{ ft}^3 \checkmark$$

b) Box

$$* SA = (15)(10)(4)$$

$$\text{box} = 600 \text{ ft}^2$$


$$x^2 = 7.5^2 + 4^2$$

$$= 72.25$$

$$x = \sqrt{72.25}$$

$$= 8.5$$

$$A_{\text{roof}} = \frac{bh}{2} (4) = 8.5$$

$$* = \frac{(15)(8.5) \times 4}{2}$$

$$= 255 \text{ ft}^2$$

$$A_T = 255 + 600$$

$$= 855 \text{ ft}^2$$


$$\text{Cost} = \$10.49 (855)$$

$$= \$8968.95$$

Choperc

A = A cylinder + A cone

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

$$= \pi (12)^2 + 2\pi (12)(8) + \pi (12)(12.4)$$


$$y^2 = 3^2 + 12^2$$

$$= 9 + 144$$

$$= 153$$

$$y = \sqrt{153}$$

$$= 12.4$$

$$\rightarrow 144\pi + 192\pi + 148.8\pi$$

$$= 340.8\pi$$

$$= 1070.7 \text{ ft}^2$$

$$\text{Cost} = \$9.25 \times 1070.7 \text{ ft}^2$$

$$= \$9903.98$$

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Conversions

62.5 in = _____ cm

$$62.5 \text{ in} \times \frac{2.54 \text{ cm}}{\text{in}} = 158.8 \text{ cm}$$

Area

67.5 ft² = _____ cm²

$$67.5 \text{ ft}^2 \times \left(\frac{12 \text{ in}}{\text{ft}}\right)^2 \times \left(\frac{2.54 \text{ cm}}{\text{in}}\right)^2 = 62709.6 \text{ cm}^2$$

Volume

102 409 yd³ = _____ km³

$$102409 \text{ yd}^3 \times \left(\frac{1 \text{ m}}{1.0936 \text{ yd}}\right)^3 \times \left(\frac{\text{km}}{1000 \text{ m}}\right)^3 = 0.00008 \text{ km}^3$$

Feb 27-8:31 AM

_____ cubic feet = 21 cubic meters

$$21 \text{ m}^3 \times \left(\frac{1.0936 \text{ yd}}{\text{m}} \right)^3 \times \left(\frac{3 \text{ ft}}{1 \text{ yd}} \right)^3 = 741.6 \text{ ft}^3$$

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Class assignment

Area conversion sheet

When finished work on...

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