Problems with the homework?

Surface Area of Composite Shapes Worksheet

7. a) $V_{prism} = A_{base} \times height$ (Box)

$= (15)(15) \times 10$

$= 2250\ ft^3$

$V_{pyramid} = \frac{A_{base} \times height}{3}$ (Top)

$= \frac{(15)(15) \times 4}{3}$

$= 300\ ft^3$

Total Area $= 300 + 2250$

$= 2550\ ft^3$

II $V_{cylinder} = \pi r^2 h$ bottom

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

$= 1152\pi$

$V_{cone} = \frac{\pi r^2 h}{3}$ top

$= \frac{\pi (12)(3)}{3}$

$= 144\pi\ ft^3$

$V_{total} = 1152\pi + 144\pi$

$= 1296\pi$

$= 4071.5\ ft^3$

b) $S.A. = bh \times 4$

$= (15)(10) \times 4$

$= 600\ ft^2$

$c^2 = a^2 + b^2$

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

$= 16 + 56.25$

$= 72.25$

$x = \sqrt{72.25}$

$= 8.5\ ft$

$S.A. = \frac{bh}{2} \times 4$

$= \frac{(10)(8.5) \times 4}{2}$

$= 170\ ft^2$

$S.A.\ total = 600 + 170$

$= 770\ ft^2$

$Cost = \frac{\$10.49}{ft^2} \times 770\ ft$

$= \$8077.30$

II $S.A._{cylinder} = 2\pi r^2 + 2\pi rh$

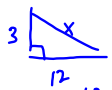
$= 2\pi (12)(8)$

$= 192\pi$

$S.A._{cone} = \pi r^2 + \pi rs$

$= \pi (12)(12.4)$

$= 148.8\pi$



$c^2 = a^2 + b^2$

$x^2 = 3^2 + 12^2$

$= 9 + 144$

$= 153$

$x = \sqrt{153}$

$= 12.4\ ft$

$A_{total} = 192\pi + 148.8\pi$

$= 340.8\pi$

$= 1070.7\ ft^2$

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

$= \$9903.98$

Conversions

62.5 in = _____cm

$62.5 \text{ in} \times \frac{2.54 \text{ cm}}{1 \text{ in}} = 158.75$

$= 158.8 \text{ cm}$

Area

67.5 ft^2 = _____ cm^2

$67.5 \text{ ft}^2 \times \left(\frac{12 \text{ in}}{1 \text{ ft}}\right)^2 \times \left(\frac{2.54 \text{ cm}}{1 \text{ in}}\right)^2 = 62769.6 \text{ cm}^2$

Volume

102 409 yd^3 = _____km^3

$102\,409 \text{ yd}^3 \times \left(\frac{1 \text{ mi}}{1760 \text{ yd}}\right)^3 \times \left(\frac{1.6093 \text{ km}}{1 \text{ mi}}\right)^3$

$= 0.000078$

_____ cubic feet = 21 cubic meters

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

$= 741.6 \text{ ft}^3$

① $12\,Km \times \frac{1\ mi}{1.6093\ Km} =$

② $13.5\,yd^2 \times \left(\frac{1\ m}{1.0936\ yd}\right)^2 = 11.3\,m^2$

Homework

1. Area conversion sheet

2. Volume conversion sheet

Attachments

Section 4.3 Worksheet - Converting Areas Imp_Metric.pdf