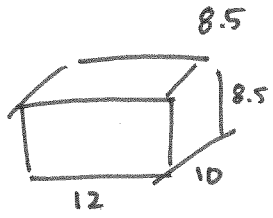
3.3 Surface Area Part II

Name: key

Examples:

1. a. Harry has to paint the walls and ceiling of a room that is 12 ft long, 10 ft wide, and $8\frac{1}{2}$ ft high. What surface area must he paint?



$SA = (12 \times 10) + 2(10 \times 8.5) + 2(12 \times 8.5)$

$= (120) + 2(85) + 2(102)$

$= 120 + 170 + 204$

$= 494\ ft^2$

b. There is a 6 ft by 4 ft window and a $2\frac{1}{2}$ ft by 7 doorway. What surface area must be paint?

$A = 6 \times 4$

$= 24\ ft^2$

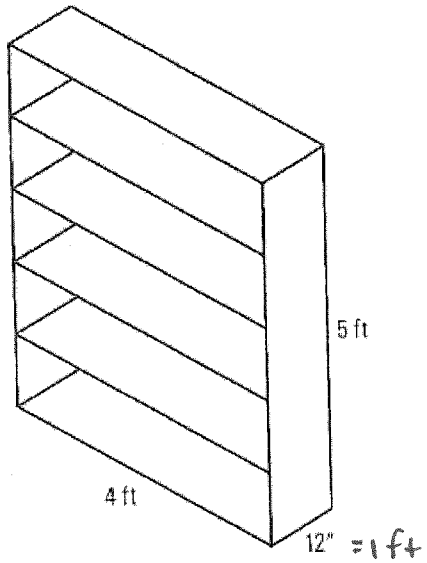
$A = 2.5 \times 7$

$= 17.5\ ft^2$

$24 + 17.5 = 41.5\ ft^2$

$494\ ft^2 - 41.5\ ft^2 = 452.5\ ft^2$

2. The wood that Terrance wants to use to make a shelving unit costs \$6.49/ft^2. How much will it cost him (assuming no waste) to make a shelving unit that is 4 ft wide by 12 inches deep by 5 ft tall (including the top and bottom)?



6 shelves $= 4 \times 1$

$= 4\ ft$

$6 \times 4 = 24\ ft^2$

2 sides $= 5 \times 1$

$= 5\ ft$

$2 \times 5 = 10\ ft^2$

1 back $= 5 \times 4$

$= 20\ ft^2$

Total $= 24 + 10 + 20$

$= 54\ ft^2$

Cost $= 54\ ft^2 \times \$6.49/ft^2$

$= \$350.46$