

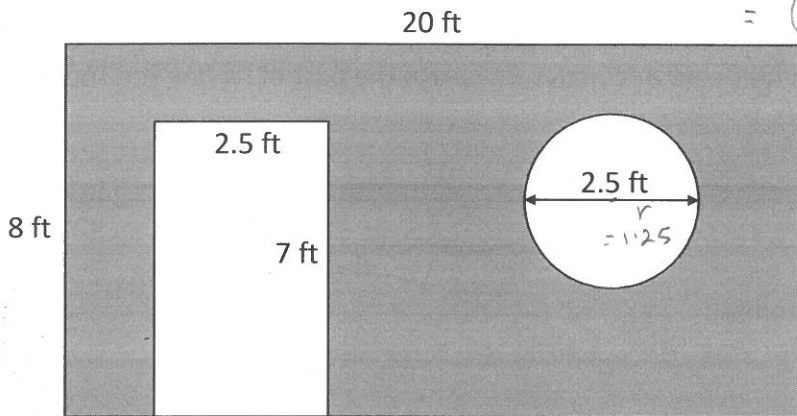
**Example 2**

You want to paint the wall shown below with **two coats** of paint. The white areas are the door and the window and will not be painted.

Paint covers  $200 \text{ ft}^2$  per can. Each can costs \$31.99 plus tax.

You are also going to hire someone to paint the wall. They charge \$18.00 an hour (plus GST), and they estimate the job will take 1.5 hours.

Determine the total cost to paint this wall.



$$\begin{aligned}
 &\text{Area to be painted} \\
 &= \text{shaded area} - \text{door} - \text{window} \\
 &= (20' \times 8') - (2.5' \times 7') - (\pi \times 1.25^2) \\
 &= 160 \text{ ft}^2 - 17.5 \text{ ft}^2 - 4.91 \text{ ft}^2 \\
 &= 160 \text{ ft}^2 - 22.41 \text{ ft}^2 \\
 &= \underline{137.51 \text{ ft}^2}
 \end{aligned}$$

$$\text{A. Total cost to paint the wall} = \# \text{ of cans of paint} + \text{Cost per can of paint} + \text{taxes} + (\text{Labour} + \text{taxes})^{\text{GST}}$$

$$\begin{aligned}
 \text{① \# of cans of paint} &= 2 \times (\text{area to be painted}) \div 200 \text{ ft}^2 \\
 &= (2 \times 137.51 \text{ ft}^2) \div 200 \\
 &= 275.02 \div 200 \\
 &= 1.375 \text{ cans} \rightarrow \text{Round up} = 2 \text{ cans} \\
 &= 2 \text{ cans of paint}
 \end{aligned}$$

$$\begin{aligned}
 \text{TOTAL COST} &= (2 \text{ cans} \times \$31.99) \times 1.12 + (\text{labour cost}^{\text{GST}}) \\
 &= (\$63.98 \times 1.12) + (\$18.00 \times 1.5 \text{ h} \times 1.05) \\
 &= (\$71.66 + \$28.35)
 \end{aligned}$$

$$\text{TOTAL COST to paint the wall} = \underline{\underline{\$100.01}}$$