

May 272014 H.gwb - 2/4 - Tue May 272014 11:40:28
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Examples

1. Find the volume of the solid.


Triangular prism

$$
\begin{aligned}
6 \mathrm{~m} & =B \cdot h \rightarrow \text { area of base } \\
& =\frac{s^{2} \sqrt{3}}{4} \cdot h \\
& =\frac{6^{2} \sqrt{3}}{4} \cdot 10 \\
& =\frac{36 \sqrt{3}}{4} \cdot 10 \\
& =9 \sqrt{3} \cdot 10=90 \sqrt{3} \mathrm{~m}^{3}
\end{aligned}
$$

2. Find the volume of the regular hexagonal right prism.


$$
\begin{aligned}
V & =B \cdot h \\
& =\left(\frac{1}{2} a \cdot p\right) \cdot h \\
& =\left(\frac{1}{2} \cdot 3 \sqrt{3} \cdot 36\right) \cdot 10 \\
& =(54 \sqrt{3}) \cdot 10 \\
& =540 \sqrt{3} \text { units }^{3}
\end{aligned}
$$

May 272014 H.gwb - 3/4 - Tue May 272014 11:49:44
3. A cistern is to be built of cement. The walls and bottom will be 1 ft thick. The outer height will be 20 ft . The inner diameter will be 10 ft . To the nearest cubic foot, how much cement will be

$$
\begin{aligned}
& \text { needed for the job? } \\
& V=\pi r^{2} h \\
& V_{S}=\pi r^{2} \cdot h \quad \lambda^{20-1} \\
& =\pi(5)^{2} .(19) \\
& =475 \pi \\
& V_{B}=\pi r^{2} h \\
& =\pi(6)^{2} .(20) \\
& =720 \pi \\
& V_{\text {CISTERN }}=V_{B}-V_{S} \\
& =720 \pi-475 \pi \\
& =245 \pi \\
& \approx 770 \mathrm{cu} . \mathrm{ft}
\end{aligned}
$$

4. Find the volume of the solid.

$$
V=\underbrace{8 \text { in }}_{\substack{\text { Not a full } \\ \text { Cylinder. }}}
$$



$$
\begin{aligned}
V & =\left(\frac{m A r c}{360} \cdot \pi r^{2}\right) \cdot h \\
& =\frac{260}{360} \cdot \pi(3)^{2} \cdot(8) \\
& =52 \pi \mathrm{in}^{3}
\end{aligned}
$$


5. A rectangular container is to be formed by folding the cardboard along the dotted lines. Find the volume of this container (the net).


