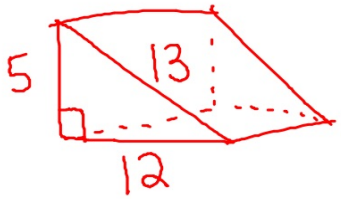
12-1 Prisms

March 22

std. 9.0

ex. 1

A right triangular prism has base edges 5, 12, and 13 cm and a volume of 450 cm^3. Find the height and lateral area of the prism.



$V = Bh$

$450 = 30h$

$15 = h$

$LA = ph$

$30(15) = 450\ cm^2$

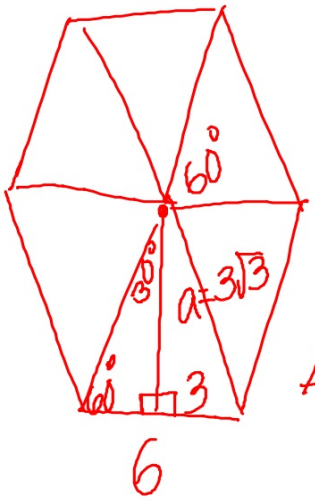
ex. 2 The base of a right prism is a regular hexagon with perimeter 36, and its height is 8. Find lateral area, total area, and volume.

$V = Bh = 54\sqrt{3} \cdot 8$

$432\sqrt{3}$

$LA = ph = 36 \cdot 8$

288^*



$\Delta = \frac{1}{2} \cdot 6 \cdot 3\sqrt{3}$

$9\sqrt{3} \cdot 6(\Delta s)$

$TA = LA + 2(B)$

$2\left(\frac{1}{2}pa\right)$

$288 + 2\left(\frac{1}{2} \cdot 36 \cdot 3\sqrt{3}\right)$

$288 + 2(54\sqrt{3})$

$288 + 108\sqrt{3}$