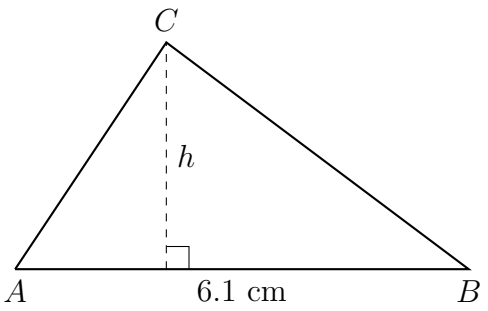
Homework: Volume calculations (due Friday)

1. Find the area of $\triangle ABC$, $Area = \frac{1}{2}bh$. The altitude h of the triangle is 3.25 centimeters and the base $AB = 6.1$ cm.



2. Find the volume of a pyramid ($V = \frac{1}{3}Bh$) having a height of 2 feet and with a square base having side lengths of 30 inches. Express your result to the *nearest cubic foot*.

3. Find the volume of a hemisphere with a radius of three inches, to the *nearest whole cubic inch*. (The formula for the volume of a *sphere* is $V = \frac{4}{3}\pi r^3$)

4. A model rocket is in the shape of a cylinder with a cone-shaped nose cone on top. The diameter of both the cylindrical base and the nose cone is 3 inches. The cylinder section is 12 inches tall and the nose is an additional 3 inches in height.

   Find the volume of the rocket, using the formulas for a cylinder of $V = \pi r^2 h$ and a cone of $V = \frac{1}{3}\pi r^2 h$. Round the result to the *nearest whole cubic inch.*

5. Given a rectangle with area 21, width x, and length $x + 4$.

   (a) Find x.

   (b) Find the perimeter of the rectangle.