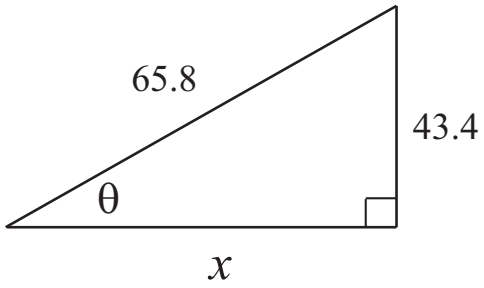
Phys 2010 (NSCC), Fall 2005
Problem Set #1

1. Convert 17.2 miles to meters.

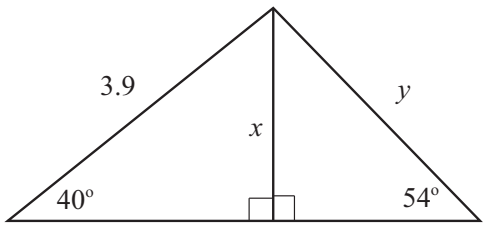
2. Convert $3.30\,\frac{\text{g}}{\text{cm}^2}$ to units of $\frac{\text{kg}}{\text{m}^2}$.

3. Find the volume of a sphere which has a *diameter* of 5.60 cm. Express the answer in units of m^3.

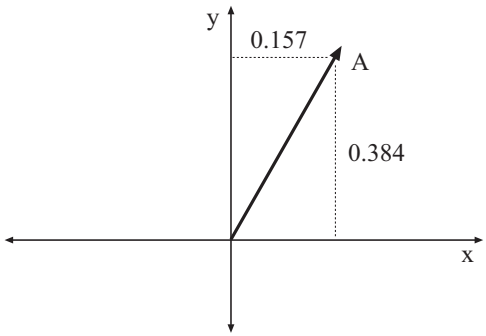
4. For the right triangle at the right, find the angle θ and the missing side x.



5. Find the missing sides x and y.

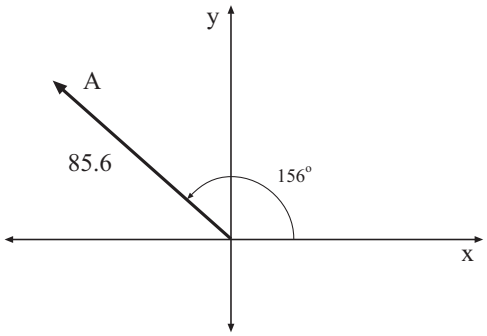


6. The vector **A** has the x and y components shown at the right. Find the magnitude and direction of **A**.



7. The vector **A** has magnitude 85.6 and points at an angle of 156° (measured from the x axis).

Find the cartesian (rectangular) components of **A**



8. Find the magnitude and direction of the sum of the two vectors shown at the right.