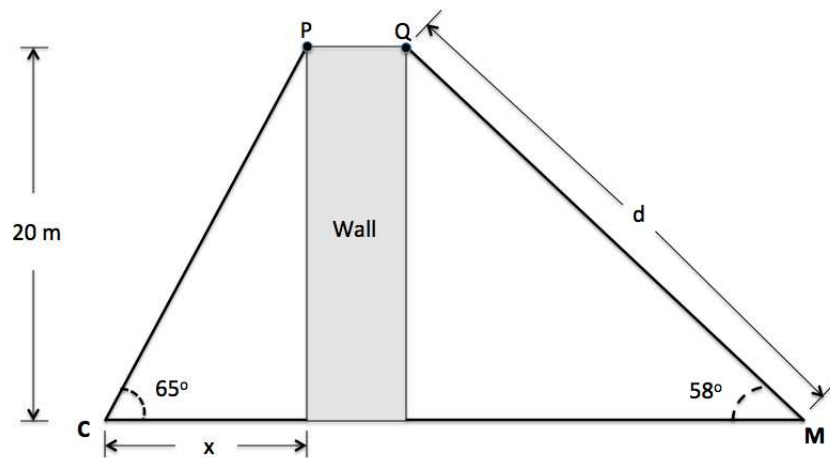**3**. [6 points] Casey and Milan are standing at different sides of a 20 meter high wall, at the points C and M respectively. They measured the angles determined by the points P,C,M and Q,M, C and found that they were 65 and 58 degrees respectively (see the figure below).

i) Find the distance d between the points M and Q. Your answer needs to be exact or rounded up to the nearest .01. Show all your work.

Solution: Using $\sin(58^o) = \dfrac{20}{d}$, we get $d = \dfrac{20}{\sin(58^o)}$ meters.

ii) Find the distance x between Casey's position and the wall. Your answer needs to be exact or rounded up to the nearest .01. Show all your work.

Solution: Using $\tan(65^o) = \dfrac{20}{x}$, we get $x = \dfrac{20}{\tan(65^o)}$ meters.