5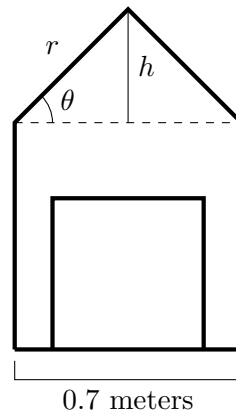. [5 points] Another customer of the dog boutique is making a custom dog house. A sketch of their plans (not drawn to scale) is shown below:

0.7 meters

a. [2 points] In order to for the snow to slide off, the slope of the roof should rise at least 4 inches vertically for each 12 inches in horizontal change. **If $\theta = 20°$ will the roof be steep enough for snow to slide off?** *Show all expressions that you calculate.*

(Circle one)   Yes   No   Not enough information

b. [3 points] The dog owner decides to make $\theta = 22°$. If the overall width of the front piece shown is 0.7 meters, what will be the measurement of r shown in the diagram?
Show all work. Give your final answer in decimal form, NOT exact form.

$r =$ _____ meters