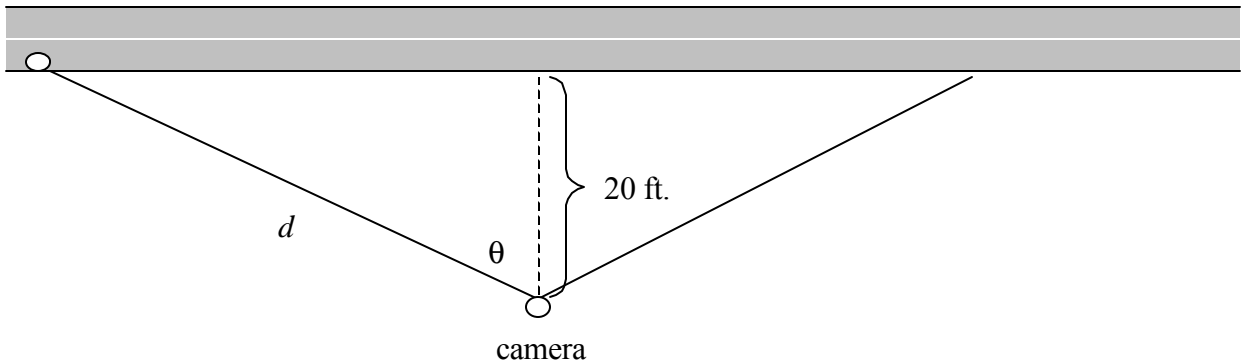


A Day at the Parade

Your first born child is marching in the street fair parade. To capture the event for posterity, you buy a camcorder especially constructed for your child. Perched on a platform with a tripod 20 ft. from Main Street, your fancy camera not only takes beautiful moving pictures, it records the distance d that your child is from the camera as you scan from left to right. (See the figure). We want to determine d as a function of θ for $-\delta/2 < \theta < \delta/2$, where θ is negative when your child approaches from the left.



1. Explain why d is undefined for $\theta = \delta/2$ or $-\delta/2$?
Remember d is the distance your child is from the camera as your child marches down Main Street.
2. By inspection (NO FORMULAS!), find $d(0)$.
3. Develop an equation for $d(\theta)$
4. Graph d vs. θ for $-\delta/2 < \theta < \delta/2$.