Trigonometry: Finding an Unknown Angle

June 10, 2014

Review: 4.06 Q14

A hot air balloon is anchored to the ground by a rope. When it drifts 20 m sideways, it makes an angle of 75° with the ground. How long is the rope (to one decimal place)?



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Angle (
$$\theta$$
) $\stackrel{\sin(\theta)}{\longleftrightarrow}$ Ratio of sides $\left(\frac{a}{b}\right)$
 $\sin^{-1}\left(\frac{a}{b}\right)$