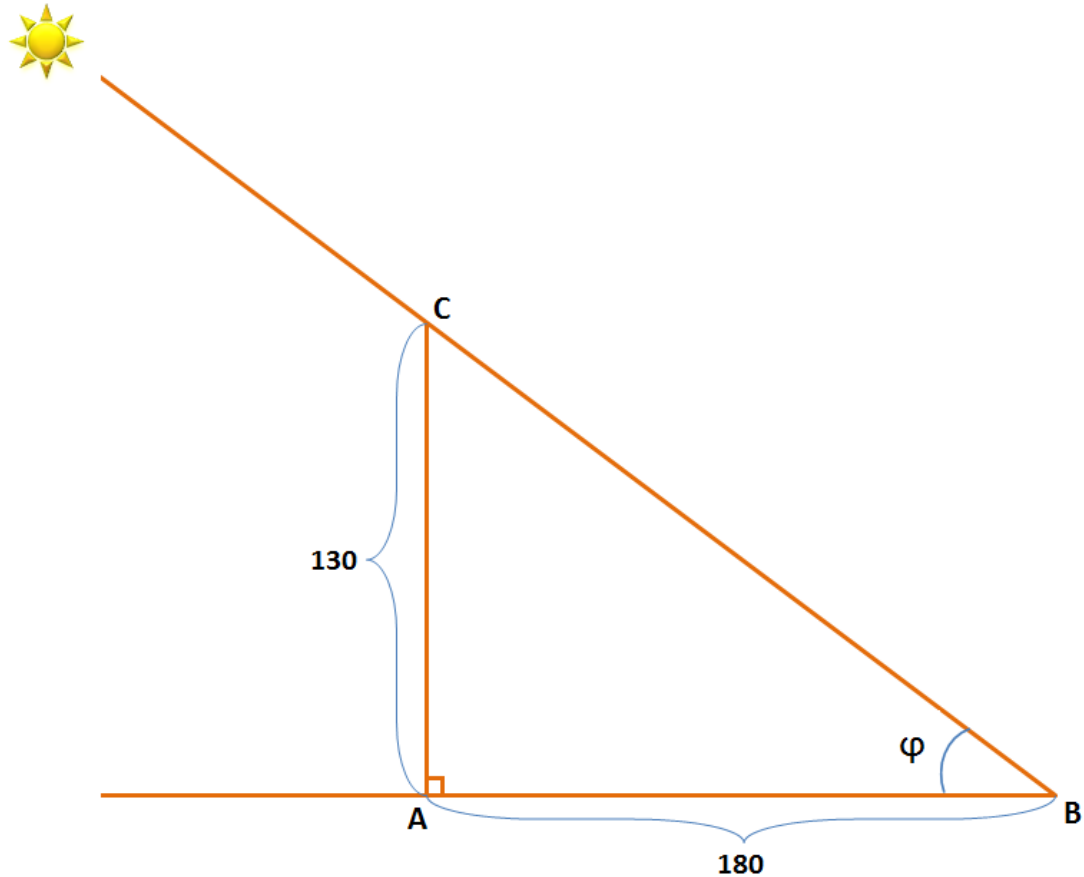


A large totem pole near Kalama, Washington is 130ft tall. On a particular day at noon it cast a 180ft shadow. What is the sun's angle of elevation at that time?

Solution.



The angle of elevation is how high the sun is. In our case the angle is φ . To find φ we should use trigonometric formulas and write an equation:

$$\operatorname{tg} \varphi = \frac{AC}{AB} = \frac{130}{180} = \frac{13}{18}$$

$$\varphi = \operatorname{arctg} \left(\frac{13}{18} \right) \approx 35.8^\circ$$

Answer: 35.8°.