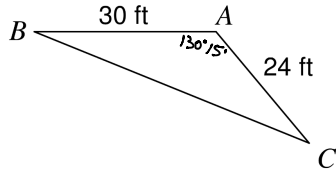
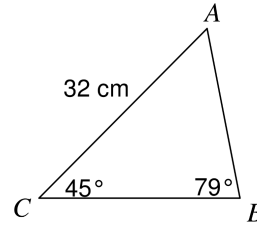


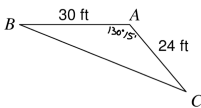
1) Solve the triangle



2) Find a.



① Solve the triangle



$$a^2 = b^2 + c^2 - 2bc \cos A$$

$$a^2 = 24^2 + 30^2 - 2 \cdot 24 \cdot 30 \cdot \cos 130^\circ 15'$$

$$a = 49.1$$

$24^2 + 30^2 - 2 \cdot 24 \cdot 30 \cdot \cos(130^\circ 15')$	2406.418531
Ans	49.05525997

$$\cos B = \frac{a^2 + c^2 - b^2}{2ac}$$

$$\cos B = \frac{49.1^2 + 30^2 - 24^2}{2 \cdot 49.1 \cdot 30}$$

$\cos^{-1}\left(\frac{49.1^2 + 30^2 - 24^2}{2 \cdot 49.1 \cdot 30}\right)$	21.8266539
Ans>DMS	21°49'35.954"

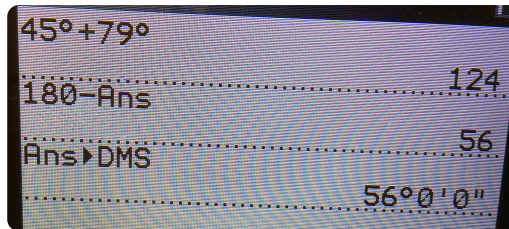
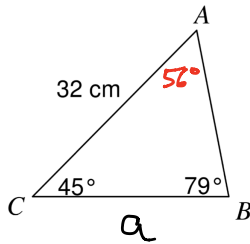
$$B = 21^\circ 50'$$

$21^\circ 50' + 130^\circ 15'$	152.0833333
180 - Ans	27.91666667
Ans>DMS	27°55'0"

$$C = 27^\circ 55'$$



2) Find a.

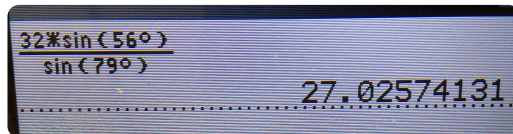


$$\frac{a}{\sin A} = \frac{b}{\sin B}$$

$$\frac{a}{\sin 56^\circ} = \frac{32}{\sin 79^\circ}$$

$$\frac{a \cdot \sin 79^\circ}{\sin 79^\circ} = \frac{32 \cdot \sin 56^\circ}{\sin 79^\circ}$$

$$a = \frac{32 \cdot \sin 56^\circ}{\sin 79^\circ}$$



27.0

My video

A hiker plans to hike up and down a mountain from one end to another in a straight path. The angle of elevation from the start point is  $42^{\circ}15'$  and from the end point is  $48^{\circ}30'$ . The horizontal distance between the start and end is 19.06 miles. Find the distance the hiker will travel. (Round to the nearest tenth)