U2D8_T APPLICATIONS OF SINE LAW

Sunday, March 4, 2018   12:53 PM
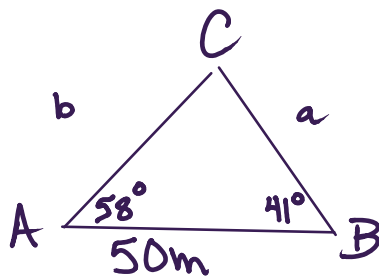
PDF

U2D8_T
APPLICATI...

MAP4CI Unit 2 Day 8

U2D8

APPLICATIONS OF SINE LAW

1. Two people stand approximately 50 m apart on level ground. One person measures the angle of elevation of a hot air balloon to be 58°. The other person measures the angle of elevation to be 41°. How far is each person from the hot air balloon?

$$\angle C = 180° - 58° - 41°$$
$$\angle C = 81°$$

$$\frac{a}{\sin 58°} = \frac{50}{\sin 81°}$$

$$\frac{a}{\sin 58°} \times \sin 58° = \frac{50}{\sin 81°} \times \sin 58°$$

U2D8 Practice: Page 102 #9, 10, 11, 14 (Sine Law Applications)

$$a = 42.9$$

$$\frac{b}{\sin 41°} = \frac{50}{\sin 81°}$$

$$b = \frac{50}{\sin 81°} \times \sin 41°$$

$$b \doteq 33.2$$

∴ they are
42.9 m and 33.2 m
from the balloon.