HEIGHT OF A MOUNTAIN

B

9°

A=3,5°
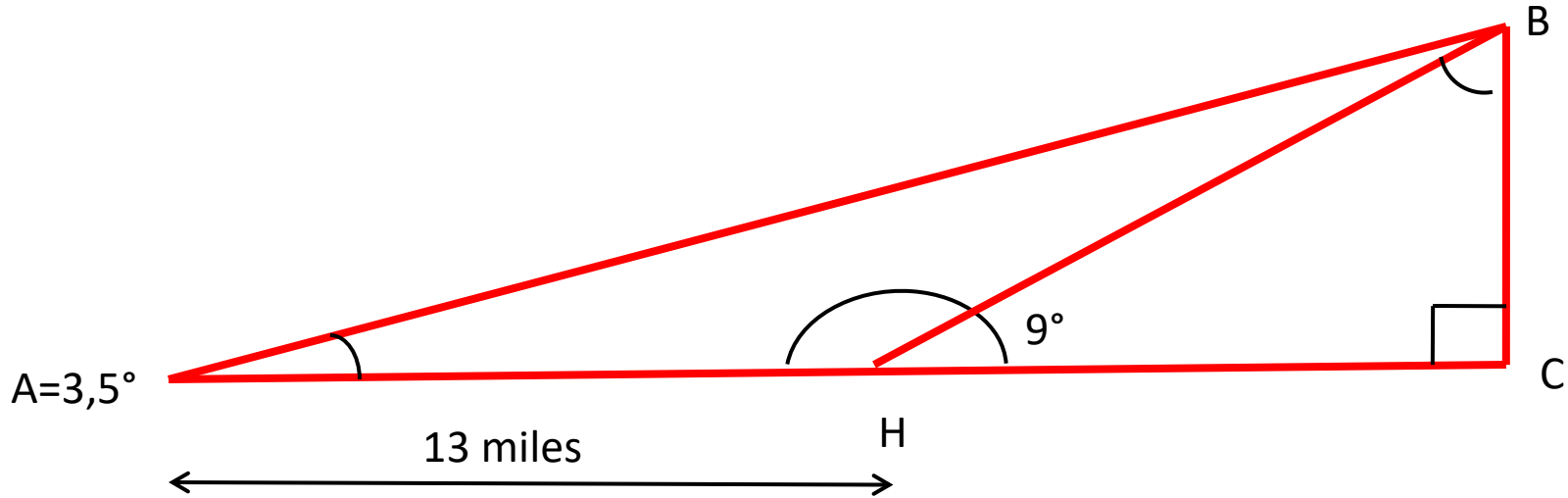
H

C

13 miles

NOT DRAWN IN SCALE

RESOLUTION

1. Since the sum of all angles in a triangle is 180°, we can find the value of $A\hat{B}C$:

   180° - 90° - 3,5° = 86,5°
2. Now we find the value of $A\hat{H}B$, which is part of a straight angle: 180° - 9°= 171°
3. Now that we know this, we can find the value of $A\hat{B}H$: 180° - 171°- 3.5° = 5.5°
4. We can finally apply the Law o Sines to find AB:

   AB / sin171° = AH / sin5.5°, which results in AB = 21.218 miles
5. Now we can use the first right triangle theorem to find the side the problem wants us to find: BC = AB*sin3.5° = 1.295.

WELL DONE