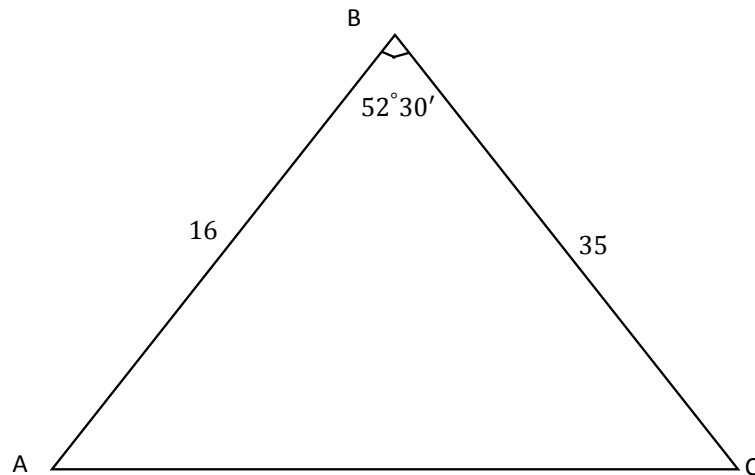**Answer on question 38913 – Math – Trigonometry**

Jezreel owns a triangular residential lot bounded by two streets which intersect at 52 degrees 30'. The sides of the lot along the streets are 16 and 35 meters respectively. Find the length of the fence needed to enclose it.

Solution

Using cosine theorem we can find the third side:

$$AC^2 = AB^2 + BC^2 - 2AB * BC * \cos \angle ABC$$

$$AC^2 = 16^2 + 35^2 - 2 * 16 * 35 * \cos 52°30' \approx 799.2$$

$$AC \approx 28.27$$

The length of fence equals the perimeter of this triangle:

$$P_{ABC} = 16 + 35 + 28.27 = 79.27.$$

Answer: 79.27 meters.