**Week2 Group Problem: Interference**

Two radio antennas A and B are separated by 300 m as shown in the figure. They simultaneously broadcast identical signals at a single wavelength. A radio in a car at the position shown receives the signals.

a) How do the distances from the car to each of the antennas compare?

\[ d_A = d_B \quad d_A > d_B \quad d_A > d_B \]

b) What is the condition on the difference of the path lengths that would cause complete *destructive* interference at the car?

c) Calculate the exact distances \( d_A \) and \( d_B \). Do not use any approximations.

d) Calculate the longest wavelength that would cause complete destructive interference at the car.