Problem of the Week

Problem E

Competition for Cache

A Geocaching race organizer is putting four caches along a route that starts and finishes at the same place.

While making his route, he recorded a few route details. Starting from point A, the organizer travelled due west to point B. From point B, he travelled 1500 m southeast to point C. While at C, he noted that $\angle BCA$ is $45°$. From point C, he travelled 1000 m in a direction $30°$ north from east to point D. Finally from point D, he travelled due north to point E and noted that $\angle DEC = 30°$.

Determine the distance, rounded to the nearest metre, from the cache at point E to the race finish at point A.

