Solution

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by David Lindell, LS

Letting point "B" have some convenient coordinate values, say North 300 and East 300, calculate coordinates for point "e" (North 346.610, East 154.576) and point "f" (North 354.067, East 467.796). By bearing-bearing (or azimuth-azimuth) intersection calculate the coordinate for point "h" (North 516.300, East 346.121). Inverse from point "B" to point "h" to get North 12°02'12" East 221.163'.

The area of parallelogram AdeB is (152.711)(cos 30°41'27")(371.129) = 48,737.03 sq. ft.

The area of parallelogram BfgC is (176.292)(cos 19°00'36")(307.627) = 51,274.45 sq. ft.

The area of parallelogram ACkj is (221.163)(cos 12°02'12")(462.373) = 100,011.55 sq.ft., the sum of the other two areas, except for round-off errors.