Special Problem 2-4.16

Say we know that:

\[ B = 2 \hat{a}_y \]

\[ C = 3 \hat{a}_y - \hat{a}_z \]

\[ A \cdot B = 4 \]

\[ C \cdot A = 5 \]

\[ |A| = 3 \]

\[ A \cdot \hat{a}_x < 0 \]

Determine vector \( A \), expressed in terms of Cartesian base vectors \( \hat{a}_x, \hat{a}_y, \hat{a}_z \).