## Answer on Question #46871 – Physics – Other

IF line(OA) =4i + 3j, line(OB) = 6i - 2j and line(OC) =2i - j . Deduce the length of the triangle CA.

13--√ 20--√ √29 √17

## Solution:

 $\begin{array}{l} OA = 4i + 3j\\ OB = 6i - 2j\\ OC = 2i - j\\ \text{Equation for the three vectors in a triangle:}\\ \hline \overrightarrow{OA} = \overrightarrow{OC} + \overrightarrow{CA}\\ \hline \overrightarrow{CA} = \overrightarrow{OA} - \overrightarrow{OC} = (4i + 3j) - (2i - j) = 2i + 4j\\ \hline \overrightarrow{CA} = < 2,4 >\\ \end{array}$ The formula for the length of a vector is the Pythagorean Formula $\left|\overrightarrow{CA}\right| = \sqrt{2^2 + 4^2} = \sqrt{4 + 16} = \sqrt{20}$ 

Answer:  $\sqrt{20}$ 

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