

PHYS UN1601 Recitation Worksheet 1

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Problem 1

- a) In unit-vector notation, what is $\vec{r} = \vec{a} - \vec{b} + \vec{c}$ if $\vec{a} = 5.0\hat{i} + 4.0\hat{j} - 6.0\hat{k}$, $\vec{b} = -2.0\hat{i} + 2.0\hat{j} + 3.0\hat{k}$, and $\vec{c} = 4.0\hat{i} + 3.0\hat{j} + 2.0\hat{k}$?
- b) Calculate the angle between \vec{r} and the positive z axis.
- c) What is the component of \vec{a} along the direction of \vec{b} ?
- d) What is the component of \vec{a} perpendicular to the direction of \vec{b} but in the plane of \vec{a} and \vec{b} ?