

Suggested problems

Chapter 03

The quiz questions will be same or very similar to the following text-book problems.

Refer to the course website for the latest version of this document.

You are encouraged to seek the help of your instructor during his office hours.

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3. The x component of vector \vec{A} is -25.0 m and the y component is $+40.0$ m. (a) What is the magnitude of \vec{A} ? (b) What is the angle between the direction of \vec{A} and the positive direction of x?

Answer: (a) 47.2 m; (b) 122°

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8. A person walks in the following pattern: 3.1 km north, then 2.4 km west, and finally 5.2 km south. (a) How far and (b) in what direction would a bird fly in a straight line from the same starting point to the same final point?

Answer: (a) 3.2 km; (b) 41° south of west

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24. Vector \vec{A} , which is directed along an x axis, is to be added to vector \vec{B} , which has a magnitude of 7.0 m. The sum is a third vector that is directed along the y axis, with a magnitude that is 3.0 times that of \vec{A} . What is that magnitude of \vec{A} ?

Answer: 2.2 m

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36. If $\vec{d}_1 = 3\hat{i} - 2\hat{j} + 4\hat{k}$ and $\vec{d}_2 = -5\hat{i} + 2\hat{j} - \hat{k}$, then what is $(\vec{d}_1 + \vec{d}_2) \cdot (\vec{d}_1 \times 4\vec{d}_2)$?

Answer: 0