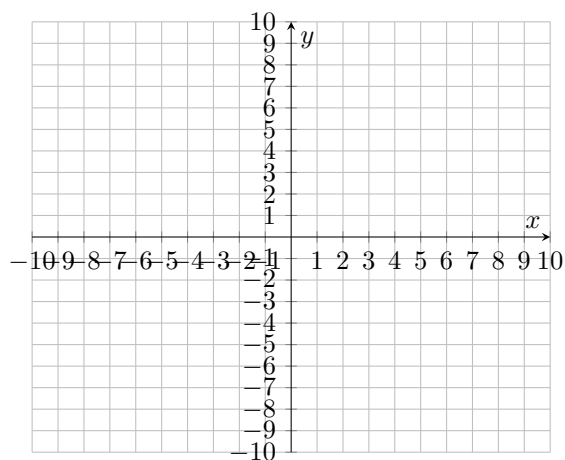


Quiz 2 / MAC 2313 / Spring 2025

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- 1 For 1-5, let \vec{u} be the standard position vector terminating at (5,-7)



- 1.1** Draw \vec{u} on the axis provided. (**ONLY \vec{u}**)
- 1.2** Find the magnitude of \vec{u} (Show appropriate work.)
- 1.3** The unit vector in the direction of \vec{u} is ___ \hat{i} + ___ \hat{j} .
- 1.4** Suppose \vec{v} initiates at (-1,2) and is **EQUIVALENT** to \vec{u} , then \vec{v} terminates at (___, ___)
- 1.5** $\vec{u} - \vec{v} = \text{---}$ (Give your answer in component form.)

2 For 6-9, let $\vec{a} = \hat{i} + 3\hat{j} - \hat{k}$ and $\vec{b} = 2\hat{i} + \hat{j}$.
Show all appropriate work.

2.1 $\vec{a} \cdot \vec{b} = ___$

2.2 Find the angle between \vec{a} and \vec{b} .

2.3 Find the scalar projection of \vec{b} onto \vec{a} .

2.4 Find the vector projection of \vec{b} onto \vec{a} .