

Quiz 1

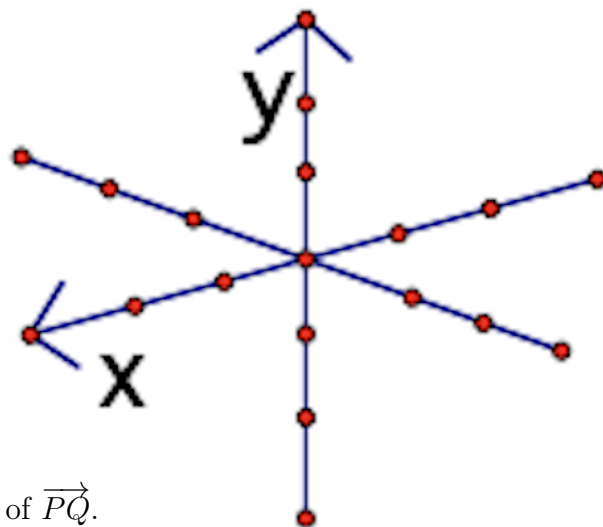
This is a two-stage quiz. During the first stage, use your knowledge & calculator. You have 15 min. In the second stage, you are now welcome to use your books, notes, and students in the class to retake the same quiz. You have the remainder of the quiz time to write one solution (with everyone's name on it!!!) to be turned in for the group.

1. Consider the set of axes on the right.

(a) [1] Label the positive z axis.

(b) [1] Plot the point $P(2, -1, -2)$

(c) [1] Find the distance between P and the xy plane.

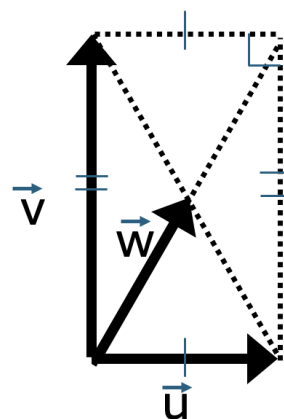


(d) [2] Let $Q(-1, 0, -1)$. Find the components of \overrightarrow{PQ} .

2. Let \vec{u} , \vec{v} , and \vec{w} be the vectors shown on the right. Assume \vec{u} is a unit vector and that $\|\vec{v}\| = \sqrt{3}$.

(a) [2] Sketch $\vec{v} - \vec{w}$

(b) [1] Find $\vec{v} \cdot \vec{v}$



(c) [2] What is the angle between \vec{u} and \vec{w} ?