

Quiz 1

Key

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 to the right.

(a) [1] Label the positive x , y , and z axis.

follow right hand rule

(b) [1] Plot the point $P(1, 2, 3)$.

(c) [1] What is the projection of P on the xz plane?

ie when $y=0$ so

$(1, 0, 3)$

(d) [1] Find the distance between P and the xz plane?

ie the y coord = 2

(e) [2] Let $Q(1, 0, 0)$. Draw the vector \vec{QP}

Plot Q (1.5) direction (1.5)

Connect points (1.5)
vector/direction (1.5)

(f) [2] Find the components of \vec{QP} .

$\langle \Delta x, \Delta y, \Delta z \rangle$

$\langle 1-1, 2-0, 3-0 \rangle$

$\langle 0, 2, 3 \rangle$

subtraction (1.5)

Posord - Q coords (1.5)

got it / notation (1.5)

(g) [1] Let $\vec{a} = 3\vec{j} - 2\vec{k}$. Plot \vec{a} on the axis.

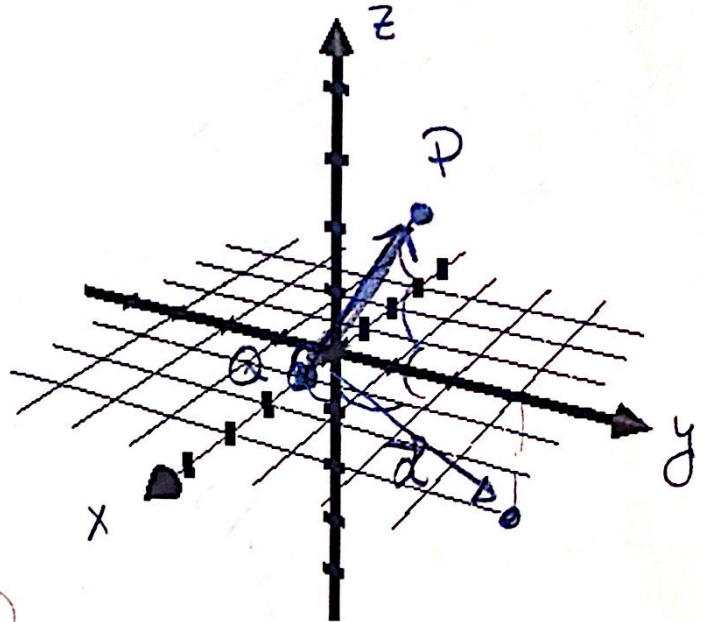
$= \langle 0, 3, -2 \rangle$

note this does not need to start at (0,0,0)

(h) [1] Find the components of $\vec{a} + \vec{QP}$

$\langle 0, 3, -2 \rangle + \langle 0, 2, 3 \rangle = \langle 0, 5, 1 \rangle$

(*) add component-wise



3D Activity #1

3D Activity #1

Wob/Wo/2-1 #2

Wob/Wo/2.1 #14

Vector Activity #1

Wob/Wo/2.2 #3

Vector Activity #6

Wob/Wo/2.2 #6