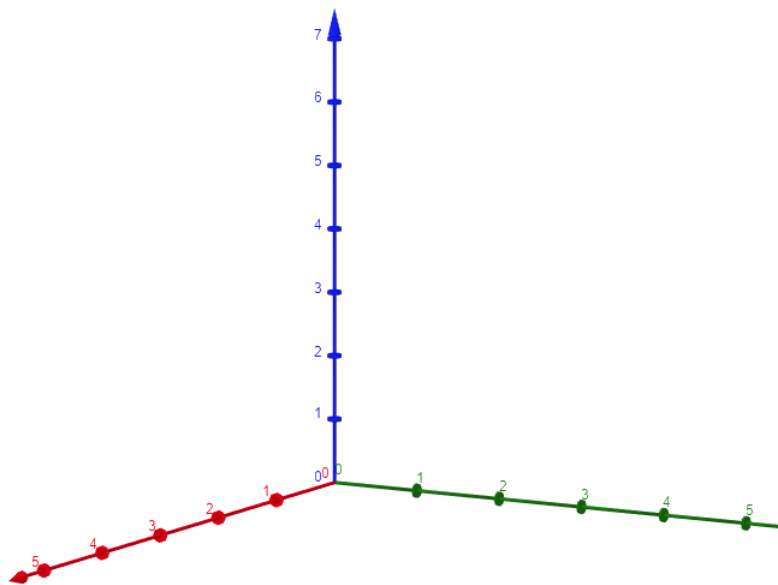


Show all work for full credit.

Let  $\vec{a} = \langle 0, -3, 2 \rangle$  and  $\vec{b} = i + 3j + 5k$

1. Find  $|\vec{a}|$  and  $|\vec{b}|$

2. Sketch vectors  $\vec{a}$  and  $\vec{b}$ .

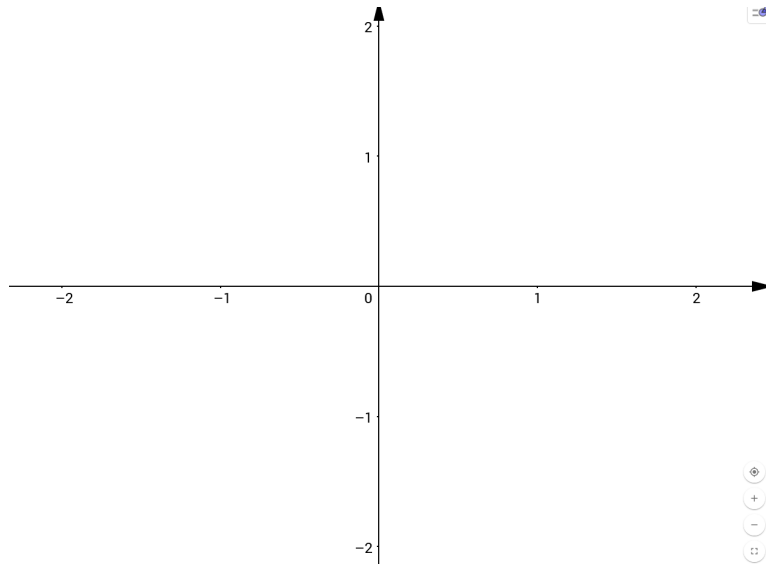


3. Find  $\vec{a} + \vec{b}$  as a vector and then sketch it above.

4. Find  $\vec{a} \cdot \vec{b}$

5. Find the angle  $\theta$  between  $\vec{a}$  and  $\vec{b}$ .

6. Plot the polar coordinates:  $(2, \pi/3)$ ,  $(-2, 5\pi/3)$ , and  $(2, 0)$



7. Set up the integral that represents the area of the shaded region. Do not evaluate!

