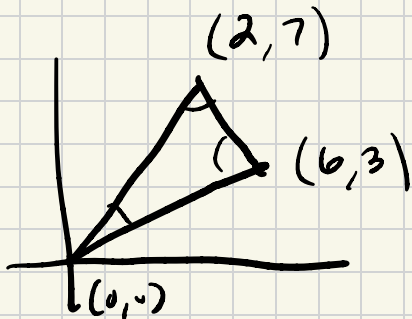


## Problems

- ①  $\langle 3, -2, 2 \rangle \cdot \langle 1, 0, 1 \rangle$
- ②  $(i+j) \cdot (2j+k)$
- ③ Find angle b/w
  - a)  $\langle 3, 1, 1 \rangle, \langle 2, -4, 2 \rangle$
  - b)  $\langle 0, 1, 1 \rangle, \langle 1, -1, 0 \rangle$
- ④ For what values of  $b$  are the following ortho:  
 $\langle 4, -2, 7 \rangle, \langle b^2, b, 0 \rangle$
- ⑤ Simplify  $(v+w) \cdot (v+w) - (2v) \cdot w$
- ⑥ If  $e, f$  s.t.  $\|e\|=1, \|f\|=1, \|e+f\|=3/2$ , what is  $\|e-f\|$ ?
- ⑦ Compute  $u \cdot v$ ,  $u = \langle 1, 1, 1 \rangle, v = \langle 1, 1, 0 \rangle$
- ⑧ Find all angles of the following triangle:



- ① If  $\|v+w\| = \|v-w\|$ , then  $v$  is orthogonal to  $w$