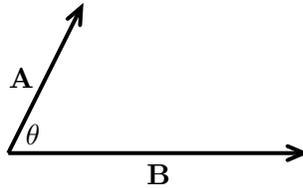


## Vector Components

- a) Let  $\mathbf{A} = \langle 1, 3 \rangle$  and  $\mathbf{B} = \langle 3, 4 \rangle$ .
  - Find the component of  $\mathbf{A}$  in the direction of  $\mathbf{B}$ .
  - Find the component of  $\mathbf{B}$  in the direction of  $\mathbf{A}$ .
- b) Let  $\mathbf{A} = \langle 3, 5, 7 \rangle$  and  $\mathbf{B} = \langle 3, 4, 0 \rangle$ . Find the component  $\mathbf{A}$  in the direction of  $\mathbf{B}$ .
- Let  $\mathbf{A} = \langle a, 2 \rangle$  and  $\mathbf{B} = \langle 1, 3 \rangle$ . For what values of  $a$  is the component of  $\mathbf{A}$  along  $\mathbf{B}$  equal to 0? For what  $a$  is it negative?
- For which angle  $\theta$  is the component of  $\mathbf{A}$  in the direction of  $\mathbf{B}$  equal to 0.



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