

### Problem 11.40

Two lightweight rods 24 cm in length are mounted perpendicular to an axle and at  $180^\circ$  to each other. At the end of each rod is a 480-g mass. The rods are spaced 42 cm apart along the axle. The axle rotates at 4.7 rad/s. (Figure 1)

#### Part A

What is the component of the total angular momentum along the axle?

Express your answer using two significant figures.

  
 $L_{\text{along axle}} =$  

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#### Part B

What angle does the vector angular momentum make with the direction of motion? The angle between the vector angular momentum and the direction of motion must be calculated about the *same point* for both components.

Express your answer using two significant figures.

  
 $\theta =$  

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Figure 1 ▾ of 1

