

Warm Up Question 1

Two identical objects are suspended by a rope over a pulley as illustrated in Figure 5.35. Suppose that the block on the right moves down with constant speed. How does the tension in the rope on the left side of the pulley compare (same, larger, smaller, etc,...) to that on the right side? Explain your answer.

1. The same. Rope is massless and accelerations are zero.
2. The same. The objects are the same.

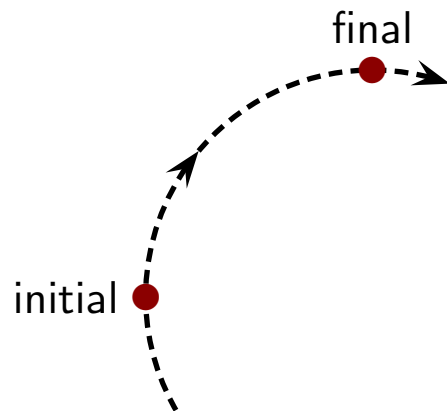
Warm Up Question 2

Two balls, one red and the other blue, each swing in a circle at the end of a string. The red ball swings on a string whose length is three times that of the blue ball. Suppose that the frequency of motion is the same for the red ball as for the blue ball. Describe as precisely as possible how the speed of the red ball compares (e.g. larger, smaller, 10 times as large,...) to that of the blue ball. Explain your answer.

1. Three times as much. Travels three times as far in same time.
2. Same. If the frequency is the same then the speed must be the same.

Question 1

A bug moves along a circular arc at a constant speed.



Which of the following is true about the average acceleration from the initial instant to the final instant as illustrated?

1. $\vec{a}_{av} = 0$
2. $\vec{a}_{av} \neq 0$ with direction \rightarrow
3. $\vec{a}_{av} \neq 0$ with direction \uparrow
4. $\vec{a}_{av} \neq 0$ with direction \searrow
5. $\vec{a}_{av} \neq 0$ with direction \nearrow