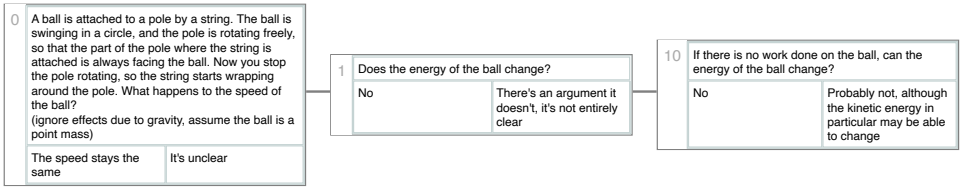
0
A ball is attached to a pole by a string. The ball is swinging in a circle, and the pole is rotating freely, so that the part of the pole where the string is attached is always facing the ball. Now you stop the pole rotating, so the string starts wrapping around the pole. What happens to the speed of the ball?
(ignore effects due to gravity, assume the ball is a point mass)
The speed stays the same
It's unclear
1
Does the energy of the ball change?
No
There's an argument it doesn't, it's not entirely clear
10
If there is no work done on the ball, can the energy of the ball change?
No
Probably not, although the kinetic energy in particular may be able to change