PHYSICS 121 QUIZ 6 10/11/2017

NAME: SECTION:

1. What is the total amount of work done on an object moving in a circle at constant speed after one revolution if the only force acting on the object is centripetal?

a) $m\frac{v^2}{R}2\pi R$

b) $2m\frac{v^2}{R}2\pi R$

c) $\frac{1}{2}mv^2$

d) πmv^2

e) 0

2. A ball is thrown straight up in a vacuum. At what point does the ball have the most energy?

a) As soon as it's thrown.

b) Right after it's thrown.

c) At the apex.

d) Right before it hits the ground.

e) The energy is the same at all points.

3. A car moving in a straight line at speed v can stop in a minimum distance d. What would be the car's minimum stopping distance if it were travelling at $2v$?

a) d

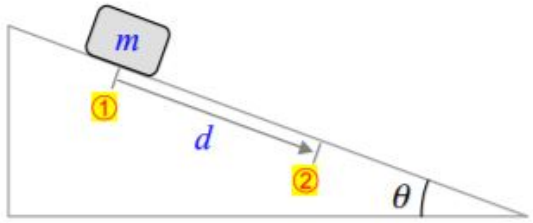
b) $2d$

c) $\sqrt{2}d$

d) $4d$

e) $8d$

4. Consider a block of mass m that is placed gently at Point 1 on a frictionless incline of angle θ. The crate then slides a distance d down the slope to reach Point 2. Which of the following is the final speed of the block at Point 2?



a) $\sqrt{gd\sin(\theta)}$

b) $\sqrt{2gd\sin(\theta)}$

c) $\sqrt{2gd}$

d) $\sqrt{gd\cos(\theta)}$

e) $\sqrt{2gd\cos(\theta)}$