Name: _____ Date: _____ Period: _____

AP Physics B – Uniform Circular Motion Practice Problems

1. A child is sitting on the outer edge of a merry-go-round that is 18 m in diameter. If the merry-go-round makes 8.3 rev/min, what is the velocity of the child in m/s?

2. Two particles, A and B, are in uniform circular motion about a common center. The acceleration of particle A is 4.7 times that of particle B. Particle B takes 2.4 times as long for a rotation as particle A. The ratio of the radius of the motion of particle A to that of particle B is closest to:

3. An aircraft performs a maneuver called an aileron roll. During this maneuver, the plane turns like a screw as it maintains a straight flight path, by using its ailerons to set the wings in circular motion. If it takes the plane 35 s to complete the circle and each wing length is 4.6 m, what is the acceleration of the wing tip?