**BOTTOM OF LOOP**

1. Draw FBD of RC car at bottom of loop:

2. Find centripetal force based on velocity entering the circle and radius of circle.

3. Find normal force based on centripetal force and gravity (remember, the centripetal force is the NET force between the normal force (+) and the force of gravity (-) ).

**TOP OF LOOP**

4. Draw a FBD of RC car at top of loop:

5. Find GPE at the top of loop:

6. Find KE at top of loop (remember, because you have the total energy and GPE, this should be easy):

7. Find velocity at top of loop from KE:

8. Find centripetal force (must be greater than the force of gravity for the people to not fall out):

9. Find normal force:

10. Find centripetal acceleration and compare to g-force (remember, more than 4g’s is dangerous!):