Pod 116 –I
Solving the centripetal acceleration formula algebraically

QUIZ:

Directions:
-This questions will ask you to derive new formulas for circular motion.
You must not only find correct answers but defend them.
For every formula you use, please write this formula in its canonical form before completing any algebraic operations.
When you make a substitution, please describe briefly in words why you made this particular substitution.

- Briefly, explain how the formula for centripetal force and the formula for centripetal acceleration are related.

- The centripetal force and centripetal acceleration are always in
a) the same direction
b) opposite directions
c) perpendicular directions
Briefly explain you answer by referring to principles of vectors and scalars.

- Create a formula for the period of circular motion in terms of the radius of a circle and the magnitude of centripetal acceleration holding an object in that circle. Demonstrate that your formula is dimensionally correct.

An object of mass *m* moves around a circle *N* times in a period *Tn*
Create a formula for the radius of the circle in terms of the centripetal force F_c,
m, N and Tn.
Demonstrate that your formula is dimensionally correct.