Note Taking Guide – Episode 504

Centripetal Force:

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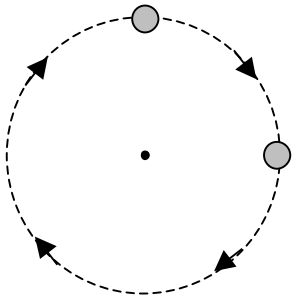

Challenge: When a car turns to the left, why do passengers slide to the right?

How can circular motion be accelerated when speed is constant?

Four variables are involved in circular motion:

1. _____ 2. _____ 3. _____ 4. _____ 5. _____

r α _____

In words: Radius is _____ proportional to _____

F_c α _____

In words: Centripetal force is _____ proportional to _____

m α _____

In words: Mass is _____ proportional to _____

F_c = ———— a_c = ————

Problem Set #1 (1-2) (on back)

_____ furnishes most of the F_c to make cars turn in a curve.
Banking a curve adds to the F_c due to the_____ component of the _____ force exerted by the road on the car.

Use the ones method to solve: If speed limit around a curve is _____ mph, and your velocity is 60 mph, the radius of the circle will be _____ times greater.