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| **Quiz #4**  Dynamics | Name (LAST, First) |

**Given:** A car (mass 2000 kg) is traveling on a flat road at a constant speed of *v* = 24.0 m/s.   
At Point *A* the driver applies the brakes so that the car reduces its speed at a uniform rate for 6.00 seconds until reaching Point *C*, when its speed is *vC* = 18.0 m/s.   
Point *B* is halfway between *A* and *C* (*in terms of TIME*). The road between Points *A* and *C* is a circular arc, with a constant radius of curvature of  = 280 m.

**Req’d: (a)** Determine the magnitude of the total force in the *horizontal plane* between the tires and ground at ***Point B***. Do not include the force of gravity (which is downward into the paper, perpendicular to the horizontal plane).

**(b)** Using either kinematics or work-energy, determine distance *D*1*.*

*A*

*C*

*B*

**

path of car

*D*1

*D*2

*Top View.*

*Not to scale.*