

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 $v_C = 18.0$ 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 $\rho = 280$ 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 .

