1. If a particle moves along a curve with a constant speed, then its tangential component of acceleration is (20%)

   A) positive.　　　　　　　　B) negative.
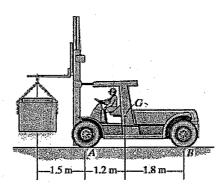
   C) zero.　　　　　　　　　　D) constant.

2. The "normal" component of the equation of motion is written as $\Sigma \mathbf{F}_n = m\mathbf{a}_n$, where $\Sigma \mathbf{F}_n$ is referred to as the _____. (20%)

   A) impulse　　　　　　　　　B) centripetal force

   C) tangential force　　　　　　D) inertia force

3. When the driver applies the brakes of a light truck traveling 10 km/h, it skids 3 m before stopping. How far will the truck skid if it is traveling 80 km/h when the brakes are applied? (30%)

4. The forklift and operator have a combined mass of 5000 kg and center of mass at G. If the forklift is used to lift the 1000-kg concrete pipe, determine the maximum vertical acceleration it can give to the pipe so that it does not tip forward on its front wheels. (30%)