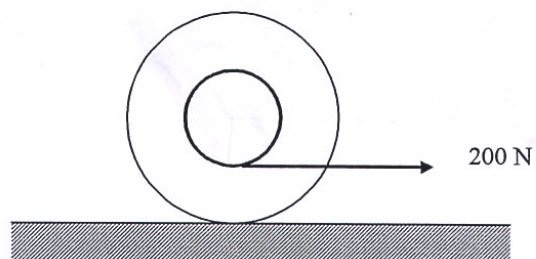
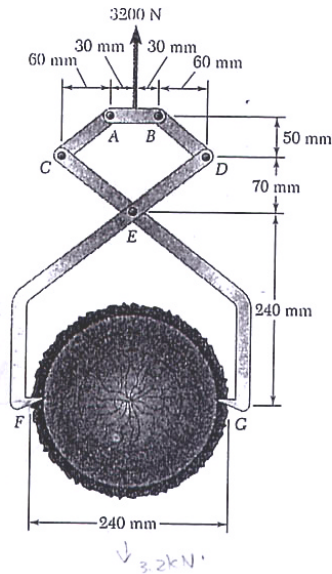


1. A cord is wrapped around the inner drum of a wheel and pulled horizontally with a force of 200 N. The wheel has a mass of 50 kg and a radius of gyration of 70 mm. The inner and outer radii of the wheel are 60 mm and 100 mm, respectively. Knowing that the coefficient of kinetic friction is 0.15, determine the acceleration of wheel center G and the angular acceleration of the wheel if the coefficient of static friction is (a) 0.2 and (b) 0.3.



1. A log having a weight of 3.2 kN is lifted by a pair of tongs as shown. Determine the forces exerted at E and F on tong DEF. (25 %)



2. The cylinder shown is of weight W and radius r , and the coefficient of static friction μ_s is the same at A and B. determine the magnitude of the largest couple M which can be applied to the cylinder if it is not to rotate. (25 %)

