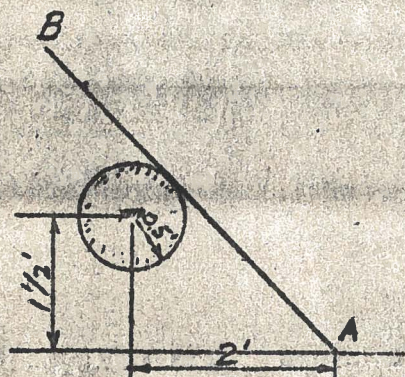


1.

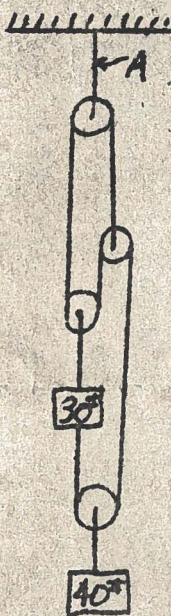


AB is a rigid rod 4 ft. long. Point A moves to the left with a velocity of 10 ft./sec. Find the velocity of point B.

2. Find the polar moment of inertia of a right elliptical cylinder if the density varies directly as the distance from the polar axis. The major diameter is $2a$ and the minor diameter is $2b$.

3. Point P moves on a circle with constant speed. A and B are projections of P on any two perpendicular diameters of the circle. Prove that for all positions of P the magnitude of the velocity of A relative to B is constant and equal to the speed of P.

4.



Neglect the mass of all cables and pulleys. Find the tension in cable A. Do not consider any friction losses in the pulleys.

12/19/97

The attached was an exam created by Dr. Meritt White especially for Joe Marcus, a graduate student taking Meritt's course in 1949.

The exam was special because it was impossible to do. It was quite the joke!