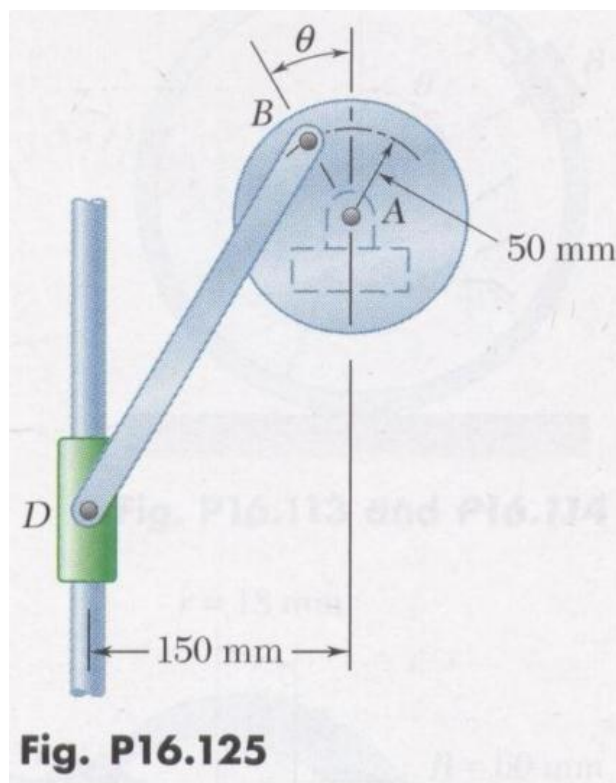# ME 2210 Dynamics: Working Model Homework 06

Kinetics of Rigid Bodies: Relative Velocity in Planar Motion
Problem 16-125 from the Handouts

16.125 The 250-mm uniform rod BD, of mass 5 kg, is connected as shown to disk A and to a collar of negligible mass, which may slide freely along a vertical rod. Knowing that disk A rotates counterclockwise at a constant rate of 500 rpm, determine the reactions at D when $\theta = 0$.

Fig. P16.125

Run the simulation and note the values. Place your name onto the panel using the Text Tool. Take a screenshot of your simulation and place it in the Dropbox Folder entitled, "myname WM Homework 06. Save your simulation for your records.

Answer:

Velocity of Rectan
Vø   13.090 rad/s

Acceleration of Re
Ax   0.015 m/s^2

Acceleration of Re
Aø   -129.277 rad/s^2

Acceleration of Re
Ay   -110.016 m/s^2

Force of Slot Joint 3
Fx
Fy   IFI   171.955 N
IFI

x 0.145   m   y -0.030   m

480