UNIVERSITY OF ARKANSAS

(Closed books & closed notes)

MEEG 4003

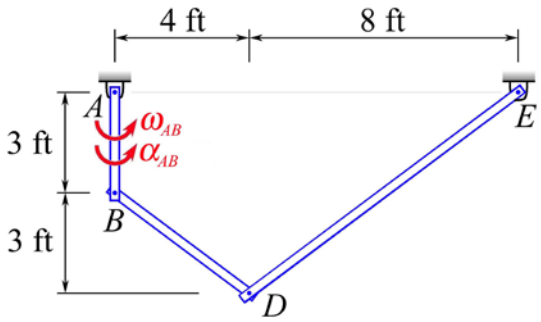
Name: _____
(Underline your **last name**.)

ID#: _____

Quiz #15.m15.093

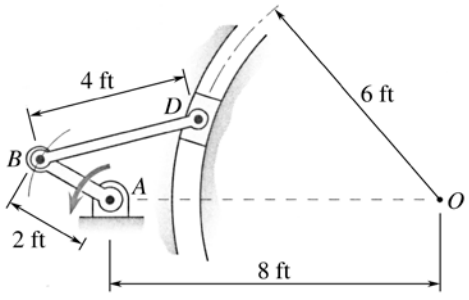
1. ② Describe Chasles' theorem.

2. ⑧ In the position shown, the crank *AB* of the 4-bar linkage rotates with $\boldsymbol{\omega}_{AB}$ = 8 rad/s ↺ and $\boldsymbol{\alpha}_{AB}$ = 6 rad/s^2 ↺. Determine the angular velocity $\boldsymbol{\omega}_{BD}$ and angular acceleration $\boldsymbol{\alpha}_{BD}$ of the link *BD* in this position.



Midterm Exam (Part A)

1. (30%) A linkage is shown, where the slider *D* moves along a smooth circular groove of radius 6 ft as indicated. It is known that the crank *AB* rotates with a constant angular velocity $\boldsymbol{\omega}_{AB}$ = 1 rad/s ↺. Using the *parametric method*, determine the **possible values** of the angular velocity $\boldsymbol{\omega}_{BD}$ of the link *BD* and the velocity $\mathbf{v}_D$ of the slider *D* when *AB* and *BD* become collinear with the line *AO*.



(**Part B** of the **Midterm Exam** to be given in the next meeting)