

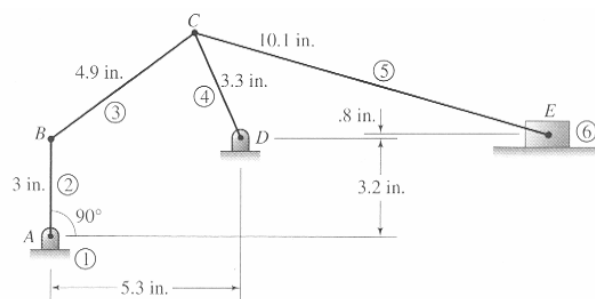
## PART 2

16

## Example

Figure shows a kinematics diagram of a mechanism that is driven by moving link 2. Graphically reposition the links of the mechanism as link 2 is displaced 30 counterclockwise. Also determine the resulting displacement, velocity & acceleration of point E.

(all values in inch multiply by 100, units in mm)



17

- Sweep the arc of length BC at the center of B' to determine point C'
- Point C' relocated from two arc
- Links 3 and 4 can be drawn

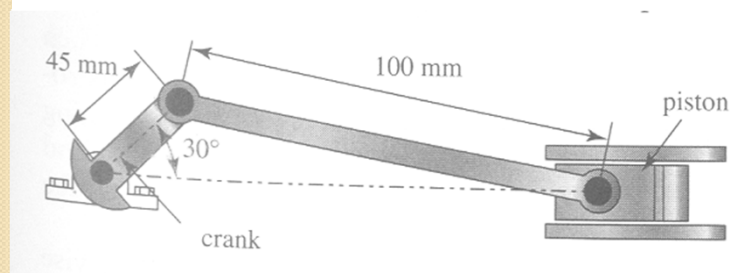
18

1. Calculate mobility  
 $n = 6$ ;  $jp = (6 \text{ pins} + 1 \text{ sliding}) = 7$ ;  $jh = 0$   
 $F = 3(6 - 1) - 2(7) = 1$
2. Reposition the driving link  
 Link 2 rotates 30 counterclockwise gives point B'
3. Determine the paths of all links directly connected to the frame  
 Reposition all points (B, C and E) on link connect to frame
4. Determine the precise position of point C'  
 Arc draws of length BC centered at B' gives point C'
5. Determine the precise position of point E'  
 Point C moves to C' by arc of length CE pivoted at C' and represents the path of point E'

19

## Assignment 2

Graphically position the links for the compressor linkage in the configuration shown in the figure. Then reposition the links as the 45 mm crank is rotated  $90^\circ$  counterclockwise. Determine the resulting displacement, velocity & acceleration of the piston.



20