NAME: _SOLUTION_____

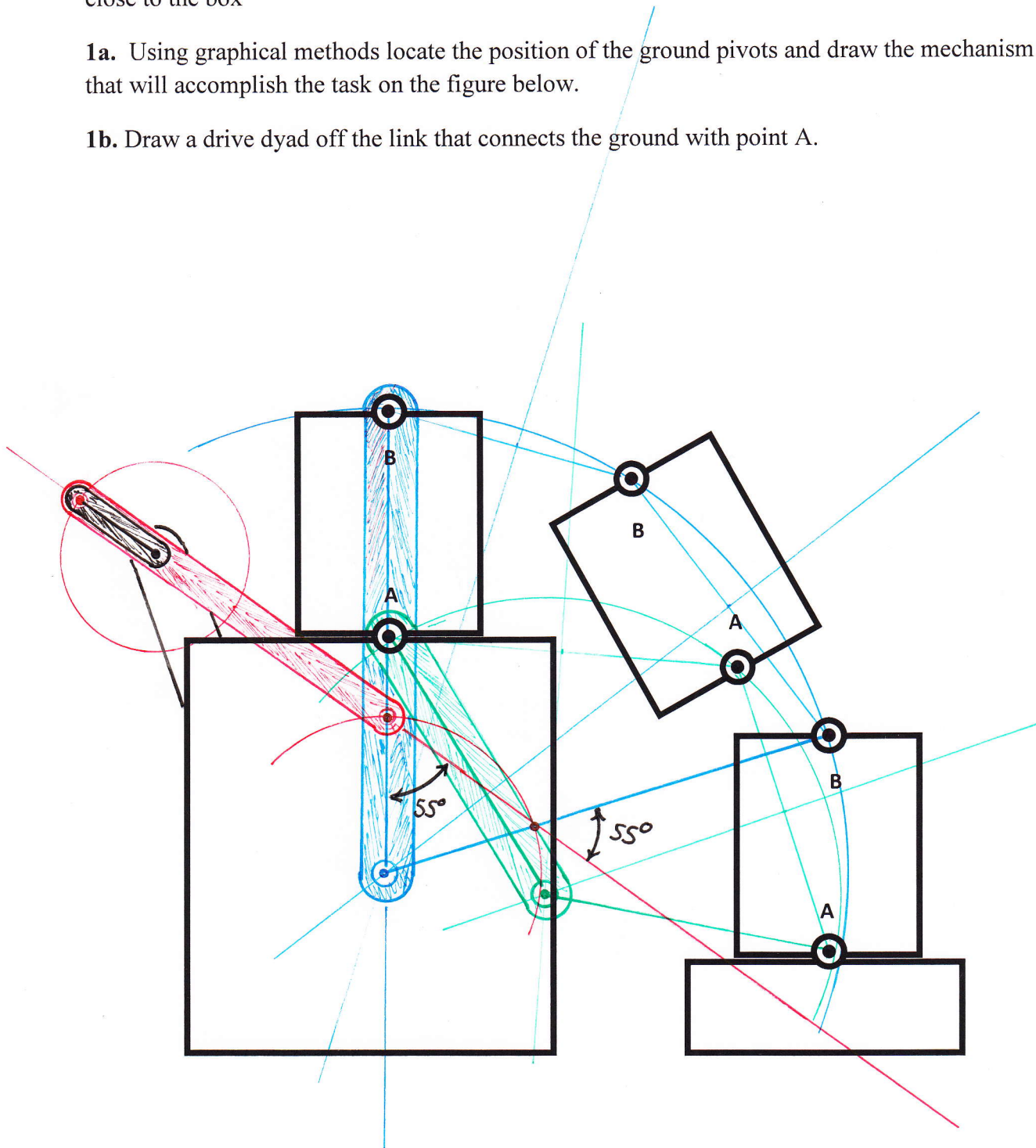**PROBLEM 1 (30 pts):** A box sits on top of the base and needs to be moved to the platform through the positions shown. To accomplish this ground pivots have to be located on or very close to the box

1a. Using graphical methods locate the position of the ground pivots and draw the mechanism that will accomplish the task on the figure below.

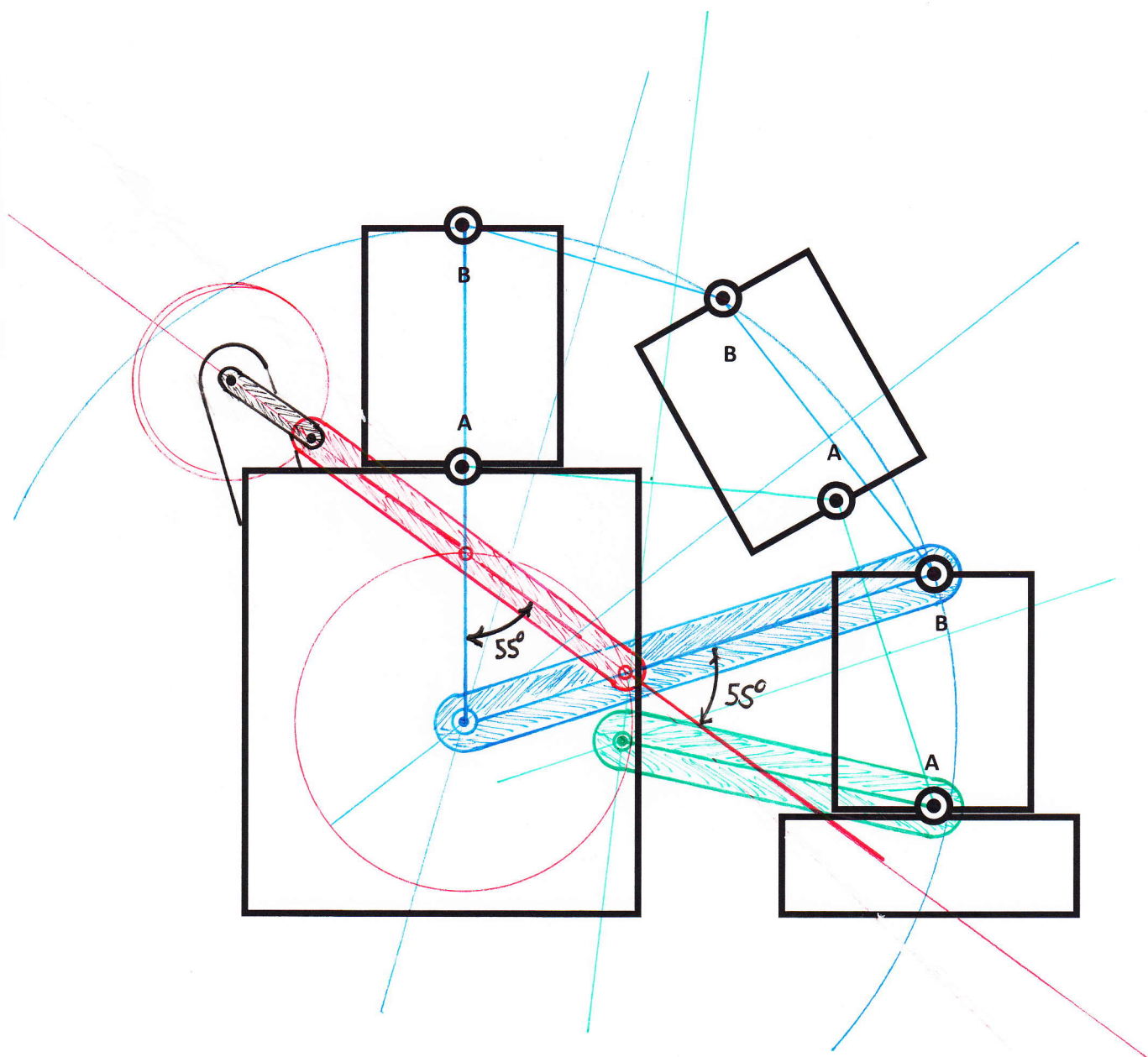**1b.** Draw a drive dyad off the link that connects the ground with point A.

NAME: _ALT PROB 1_____

PROBLEM 1 (30 pts): A box sits on top of the base and needs to be moved to the platform through the positions shown. To accomplish this ground pivots have to be located on or very close to the box

1a. Using graphical methods locate the position of the ground pivots and draw the mechanism that will accomplish the task on the figure below.

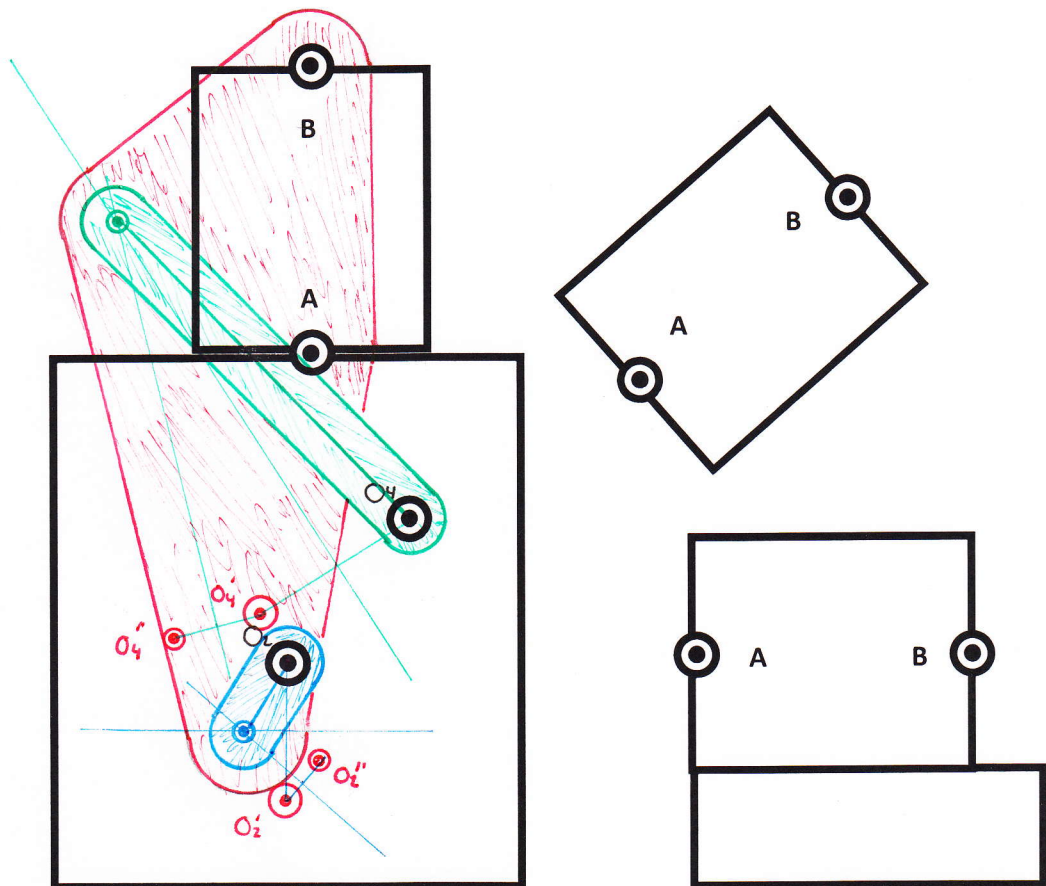**1b.** Draw a drive dyad off the link that connects the ground with point A.

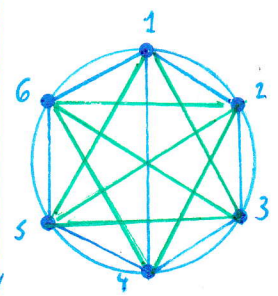**1b.** What is the minimum transmission angle on the drive dyad?

SEE DRAWING FOR LOCATION OF 55° minimum TRANSMISSION
ANGLES.

PROBLEM 2 (30 pts): The figure below illustrates three positions of a mechanism that needs to be synthesized.
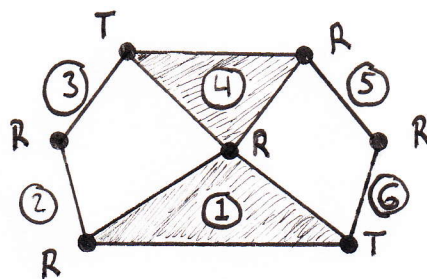
2a. Using three position synthesis create a linkage that will take the box through the desired motion that attaches to the fixed points shown on the box.

PROBLEM 3 (30 pts): Using instant centers determine the velocity of point C given the velocity of Point A on Link 2 is 4m/s in a direction perpendicular to the link as it rotates counter clock wise about O_2.

**PROBLEM 4 (10 pts):** Draw the isomer for the linkage in Problem 3.

NAME: _____

PROBLEM 1 (30 pts): A box sits on top of the base and needs to be moved to the platform through the positions shown. To accomplish this ground pivots have to be located on or very close to the box

1a. Using graphical methods locate the position of the ground pivots and draw the mechanism that will accomplish the task on the figure below.
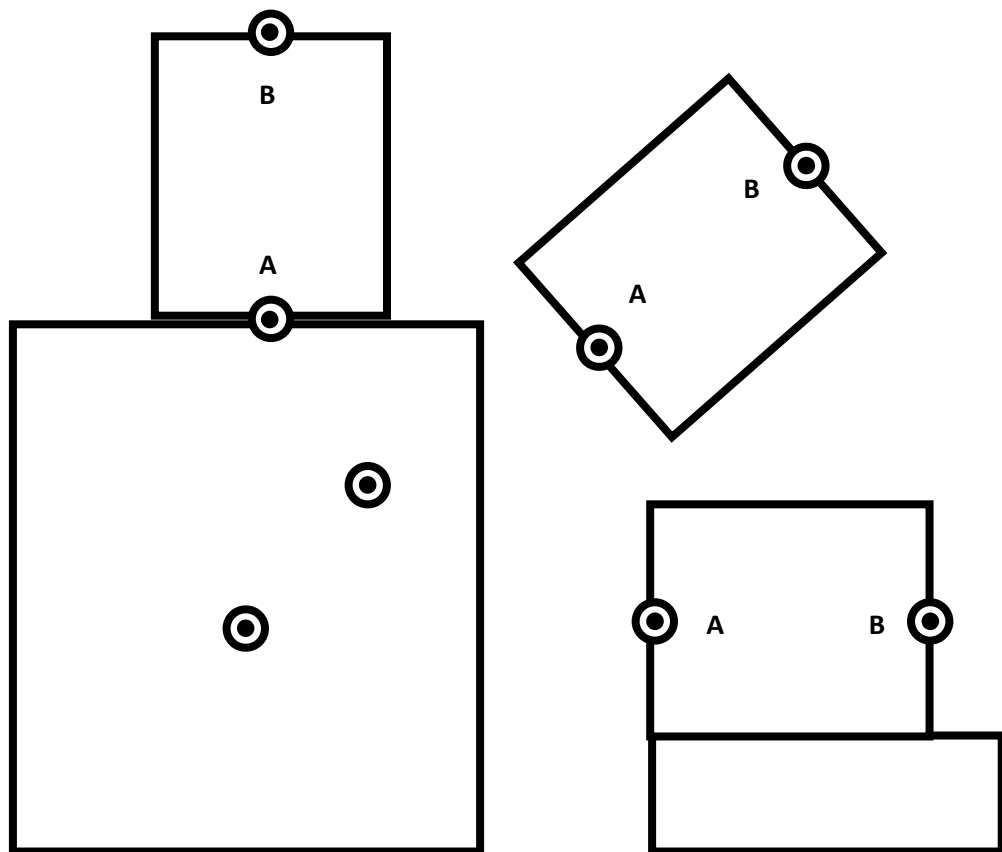
1b. Draw a drive dyad off the link that connects the ground with point A.
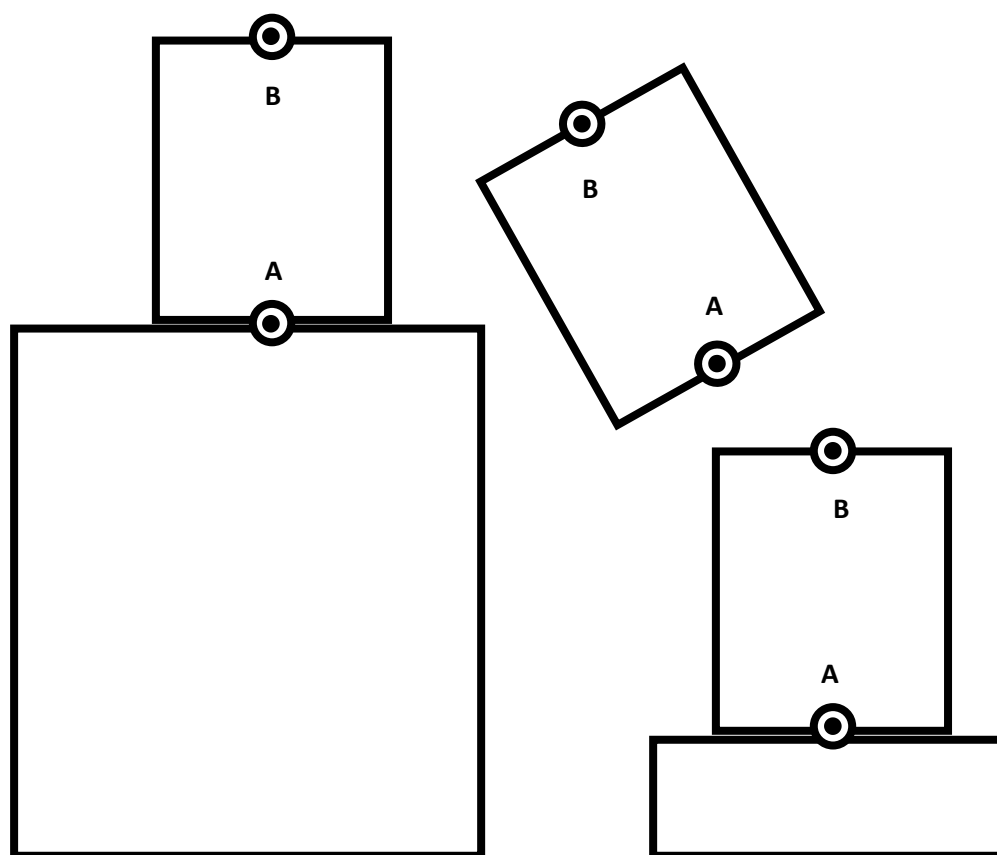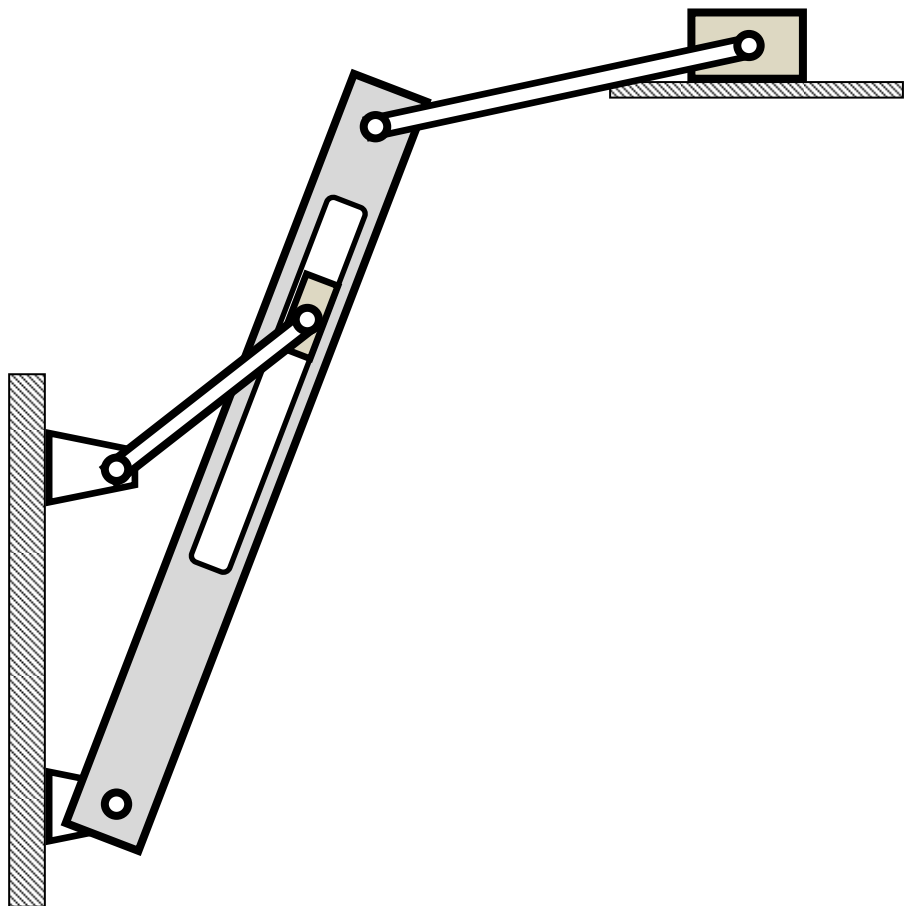
1b. What is the minimum transmission angle on the drive dyad?

PROBLEM 2 (30 pts): The figure below illustrates three positions of a mechanism that needs to be synthesized.

2a. Using three position synthesis create a linkage that will take the box through the desired motion that attaches to the fixed points shown on the box.

PROBLEM 3 (30 pts): Using instant centers determine the velocity of point C given the velocity of Point A on Link 2 is 4m/s in a direction perpendicular to the link as it rotates counter clock wise about O_2.

PROBLEM 4 (10 pts): Draw the isomer for the linkage in Problem 3.