CSWA Exam Preparation
Practice set 2

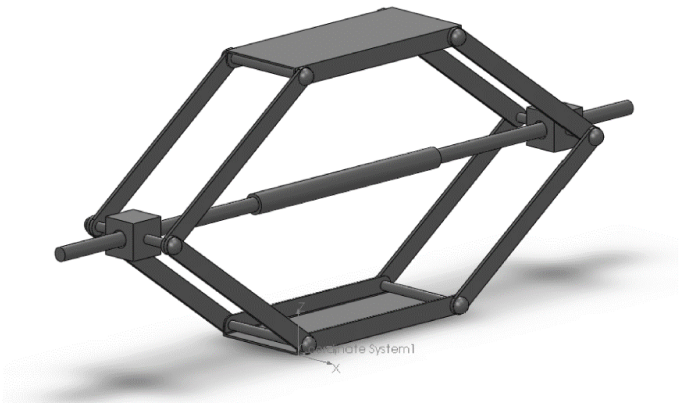
Question 1 – Assembly modeling

Model the assembly shown in the figures provided. Use the following information. The assembly is a scissors lift containing seven components: Lower Base, Upper Base, Link, Pivot, Short Pin, Long Pin, and Shaft. There are two short pins, two long pins, two pivots, and eight links in the assembly.

- Unit system: IPS (inch, pound, second)
- Assembly origin: As shown
- Decimal places: 2
- A = 20.50
- B = 6.50
- C = 36°
- Material: AISI 1020 for all components.
- Each base has .025" internal radii.
- The shaft is centered in the assembly horizontally (from left to right) and vertically (between the lower base and upper base).
- The shaft fits in the holes in the pivot (no clearance).
- The pins fit in the holes at the ends of the links and each base (no clearance).
- All links are oriented at the same angle (Angle C).
- All holes are "through" holes.

What is the center of mass of the assembly with respect to the illustrated coordinate system?

A. X = –1.35, Y = 3.00, Z = 4.25
B. X = –1.35, Y = 3.00, Z = 3.75
C. X = 1.35, Y = 3.00, Z = 3.75
D. X = 1.35, Y = 3.00, Z = 4.25



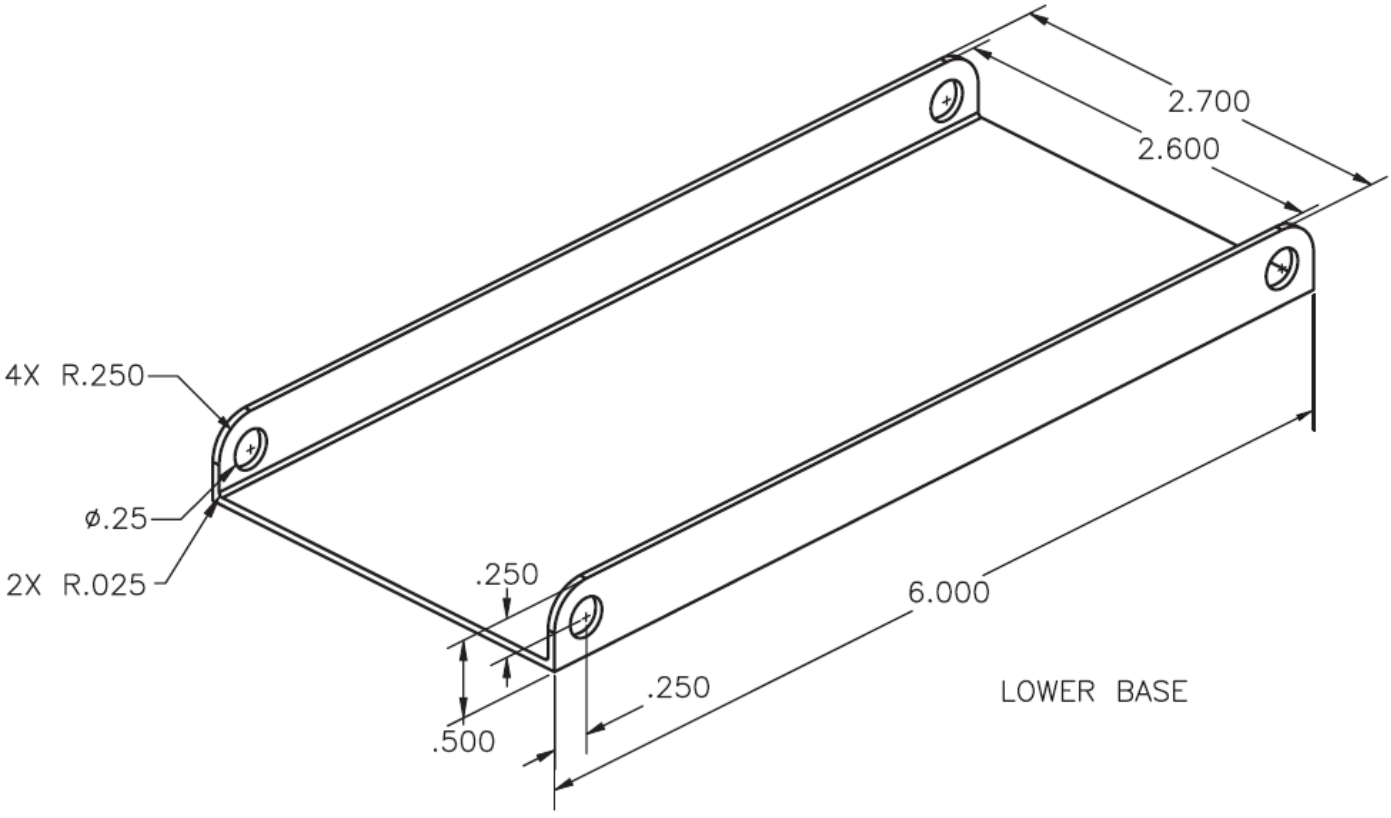
PRODUCTIVITY HUB

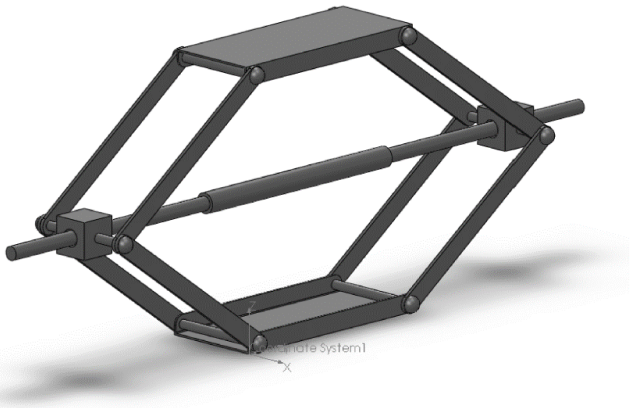
HELPING YOU INCREASING YOUR PRODUCTIVITY

CSWA Exam Preparation

Practice set 2

Question 1 – Lower Base modeling





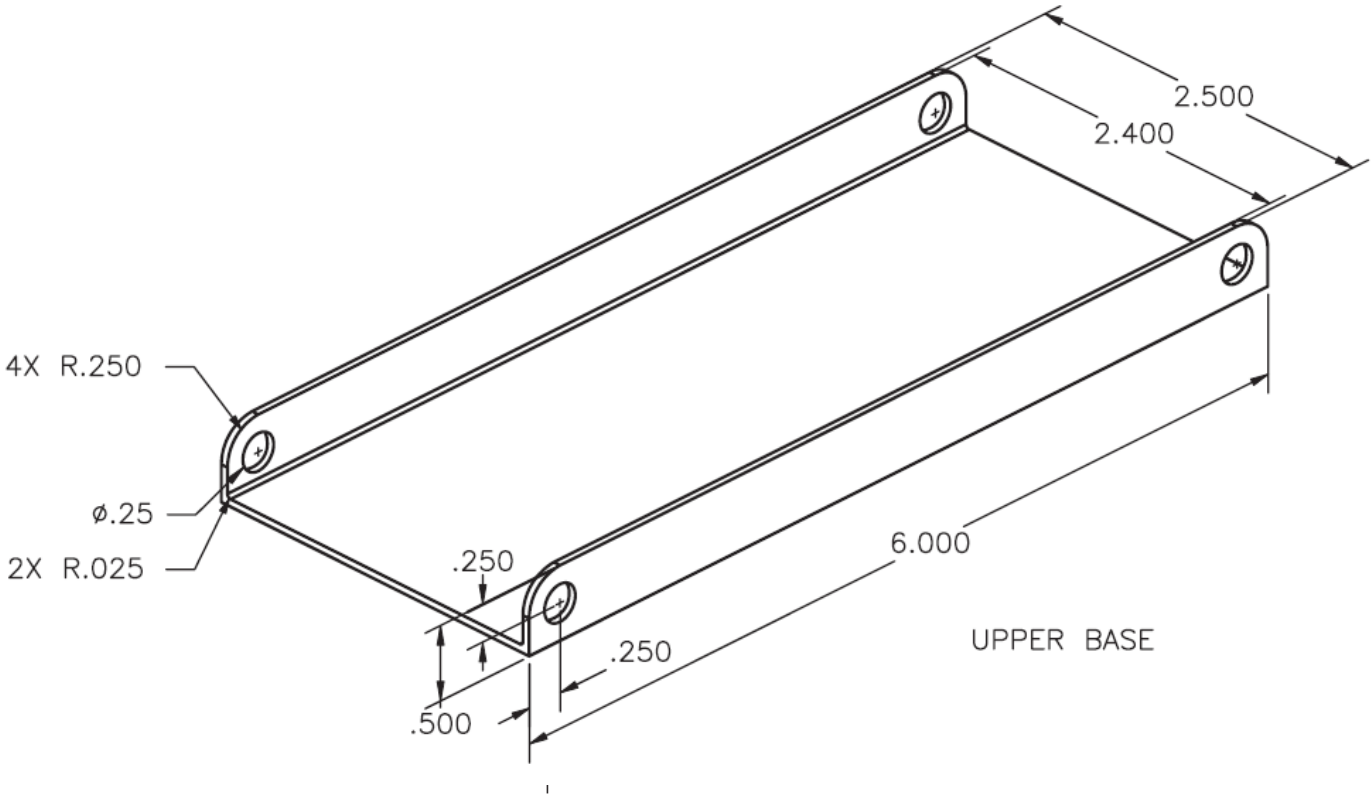
PRODUCTIVITY HUB

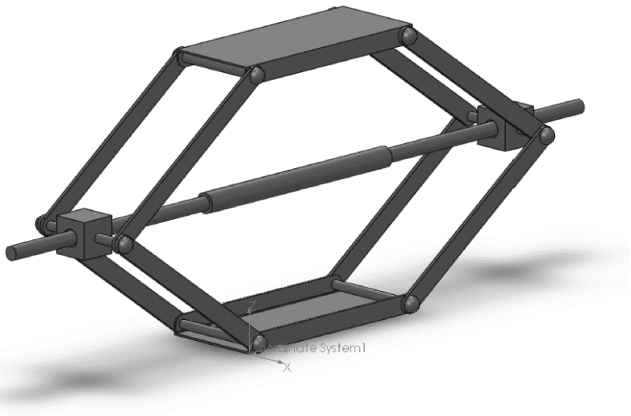
HELPING YOU INCREASING YOUR PRODUCTIVITY

CSWA Exam Preparation

Practice set 2

Question 1 – Upper Base modeling





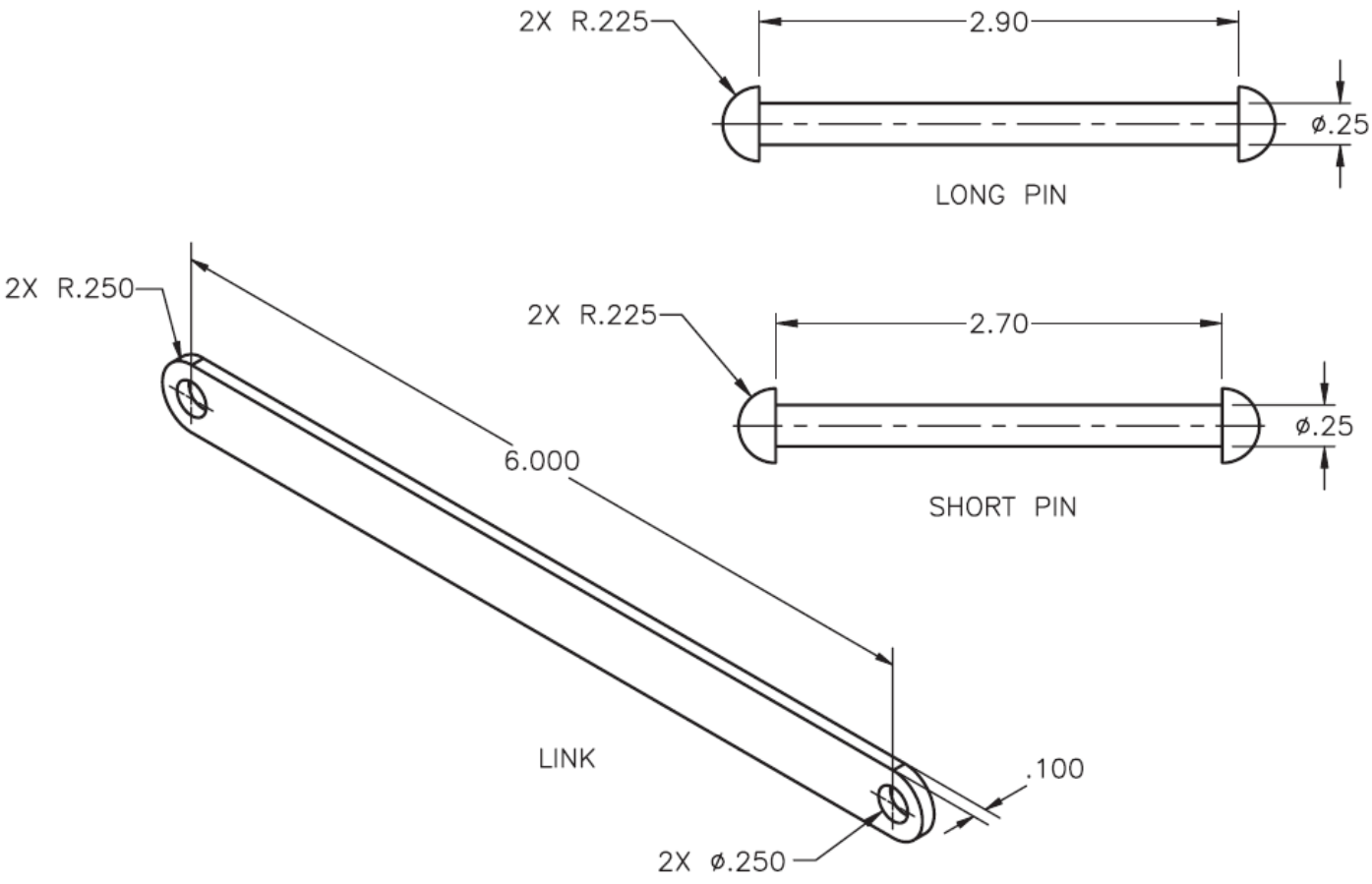
PRODUCTIVITY HUB

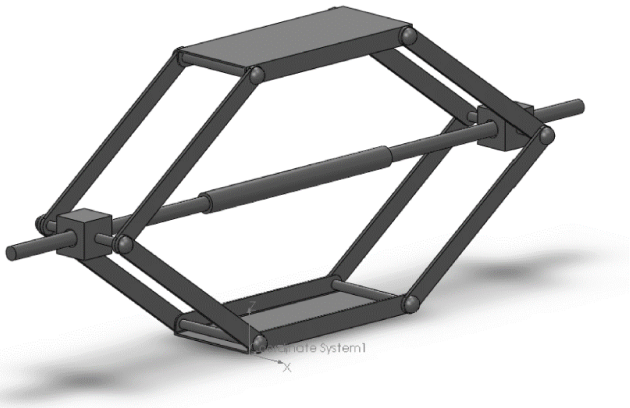
HELPING YOU INCREASING YOUR PRODUCTIVITY

CSWA Exam Preparation

Practice set 2

Question 1 – Link and Pin modeling





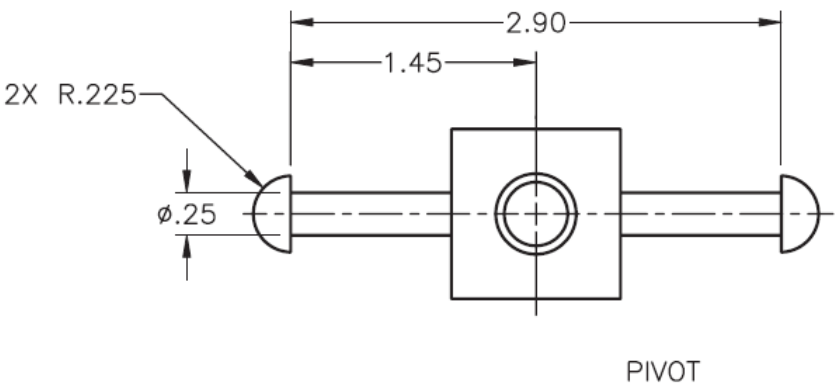
PRODUCTIVITY HUB

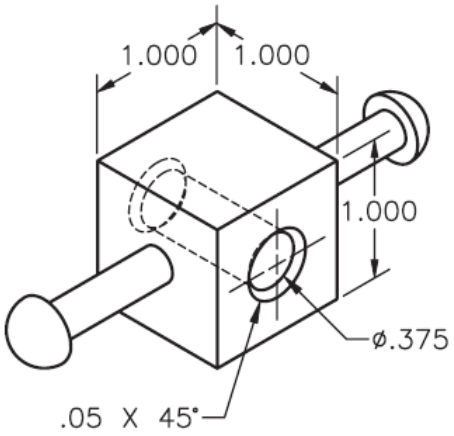
HELPING YOU INCREASING YOUR PRODUCTIVITY

CSWA Exam Preparation

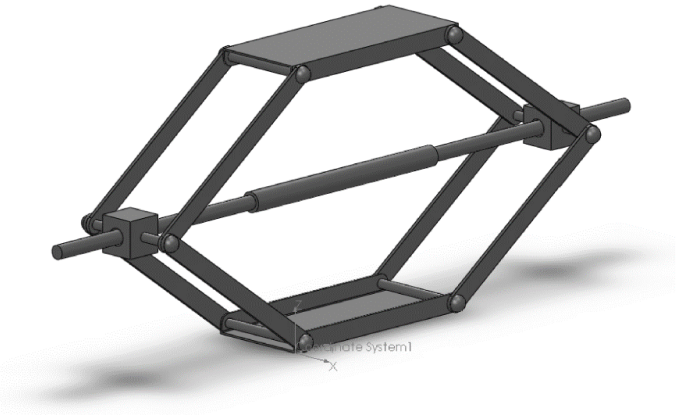
Practice set 2

Question 1 – Pivot modeling





PIVOT



PRODUCTIVITY HUB

HELPING YOU INCREASING YOUR PRODUCTIVITY

CSWA Exam Preparation

Practice set 2

Question 1 – Shaft modeling