The following problems are intended to give the beginning drafter practice in using the various kinds of sectional views used in industry. As these are beginning problems, no dimensions will be used at this time.

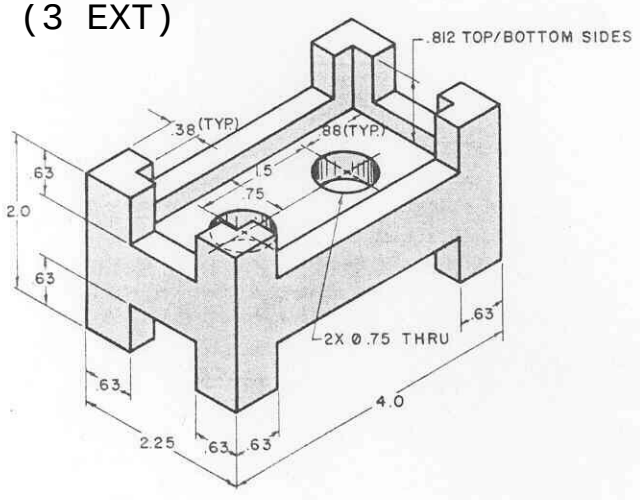
The steps to follow in laying out all problems in this chapter are:

Step 1 Study the problem carefully.
Step 2 Choose the view with the most detail as the front view.
Step 3 Position the front view so there will be the least amount of hidden lines in the other views.
Step 4 Make a sketch of all required views.
Step 5 Determine what should be drawn in section, what type of section should be used, and where to place the cutting-plane line.
Step 6 Center the required views within the work area with a 1-inch (25-mm) space between each view.
Step 7 Use light projection lines. Do not erase them.
Step 8 Lightly complete all views.
Step 9 Check to see that all views are centered within the work area.
Step 10 Check to see that there is a 1-inch (25-mm) space between all views.
Step 11 Carefully check all dimensions in all views.
Step 12 Darken in all views using correct line thickness.
Step 13 Add a cutting-plane line and section lining as required.
Step 14 Recheck all work, and, if correct, neatly fill out the title block using light guidelines and neat lettering.

Problem 5-1

Center three views within the work area, and make the front view a full section.

(3 EXT)

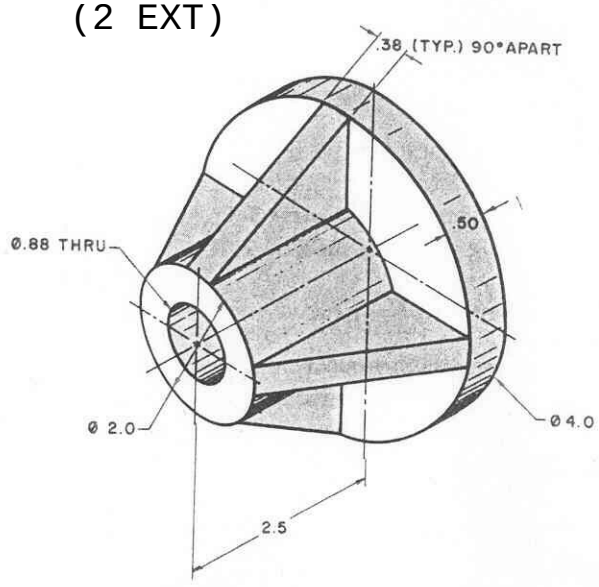


Problem 5-1

Problem 5-2

Center two views within the work area, and make one view a full section. Use correct drafting practices for the ribs.

(2 EXT)

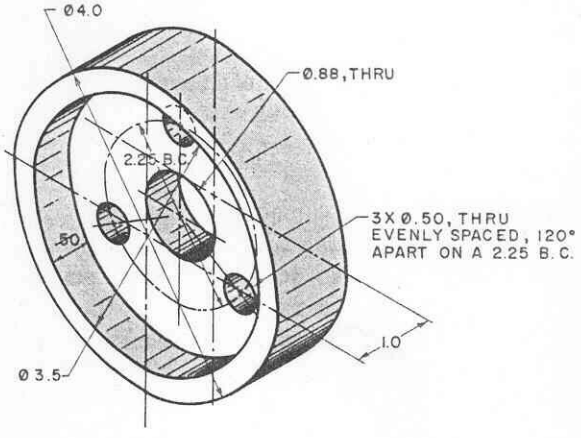


Problem 5-2

Problem 5-3

Center two views within the work area, and make one view a full section. Use correct drafting practices for the holes.

(2 EXT)

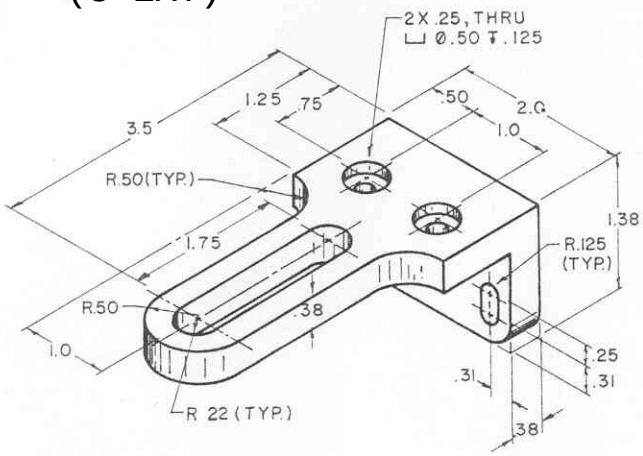


Problem 5-3

Problem 5-7

Center three views within the work area, and make one view an offset section. Be sure to include three major features.

(3 EXT)

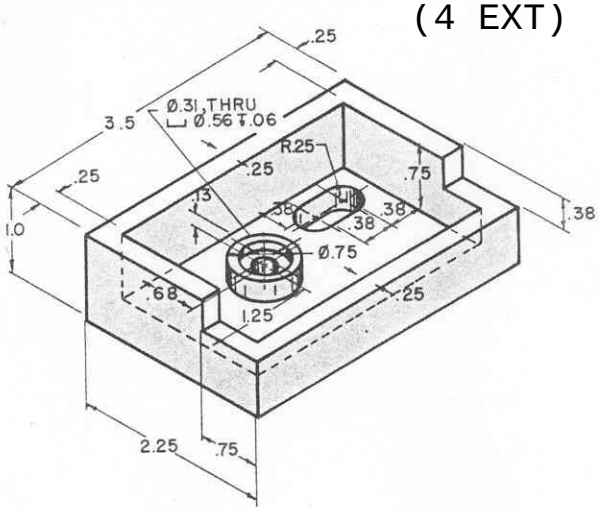


Problem 5-7

Problem 5-9

Center three views within the work area, and make one view an offset section. Be sure to include as many of the important features as possible.

(4 EXT)



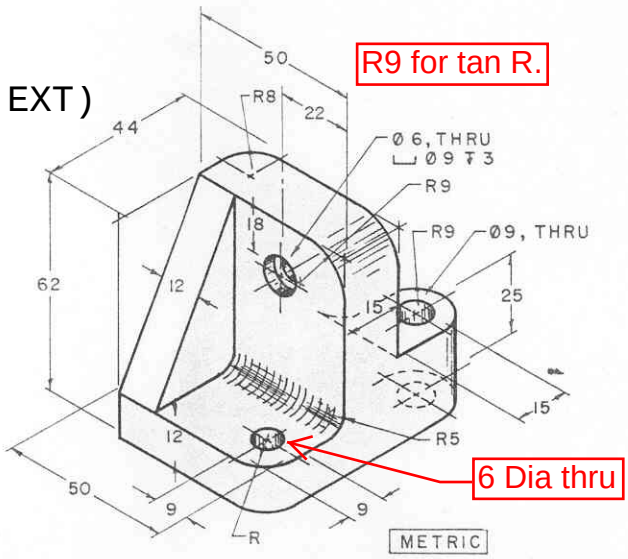
Problem 5-9

Problem 5-8

Center three views within the work area, and make one view an offset section. Be sure to include three major features.

(4 EXT)

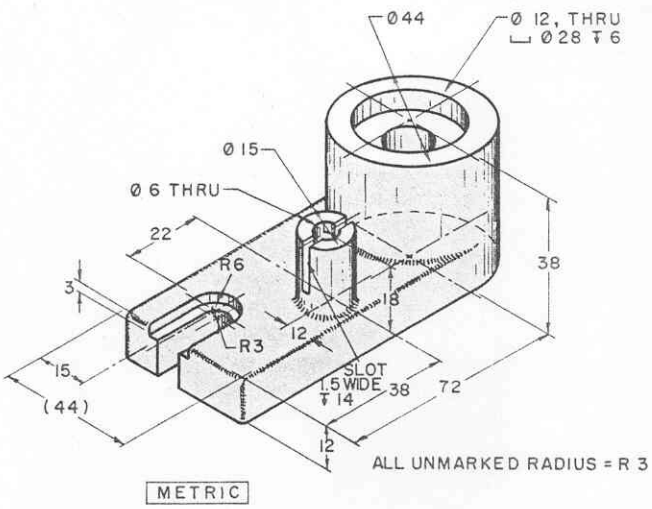
R9 for tan R.



Problem 5-8

Problem 5-10

Center three views within the work area, and make one view an offset section. Be sure to include as many of the important features as possible.

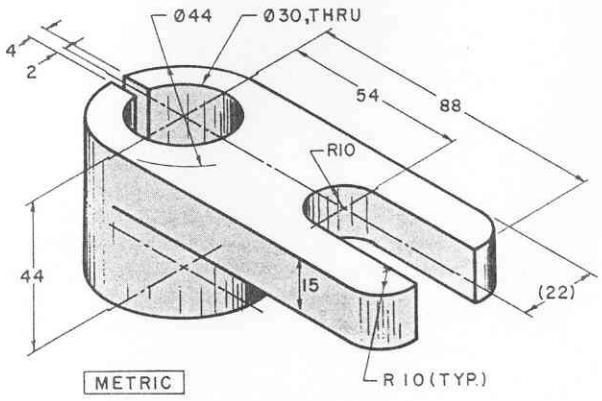


Problem 5-10

Problem 5-4

Center the front view and top view within the work area. Make one view a full section.

(2 EXT)



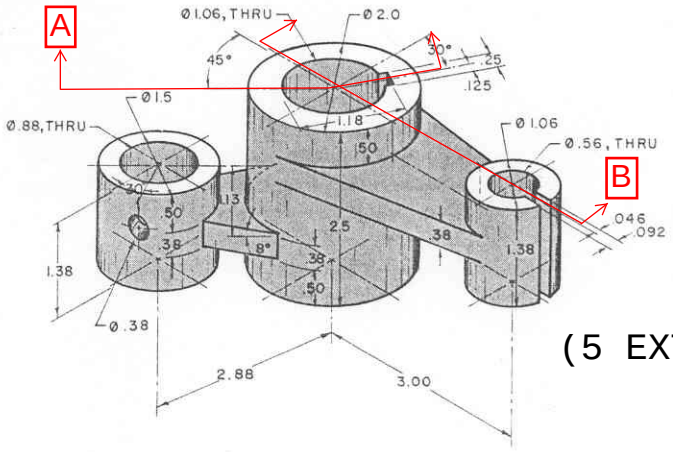
Problem 5-4

Do this one last!!! PROBLEM 5-5

Problem 5-5

Center 4 views within the work area, and make two sections AA BB. Use correct drafting practices for the arms, horizontal hole, and keyway.

Top view horiz line between .88 dia and 1.06 dia



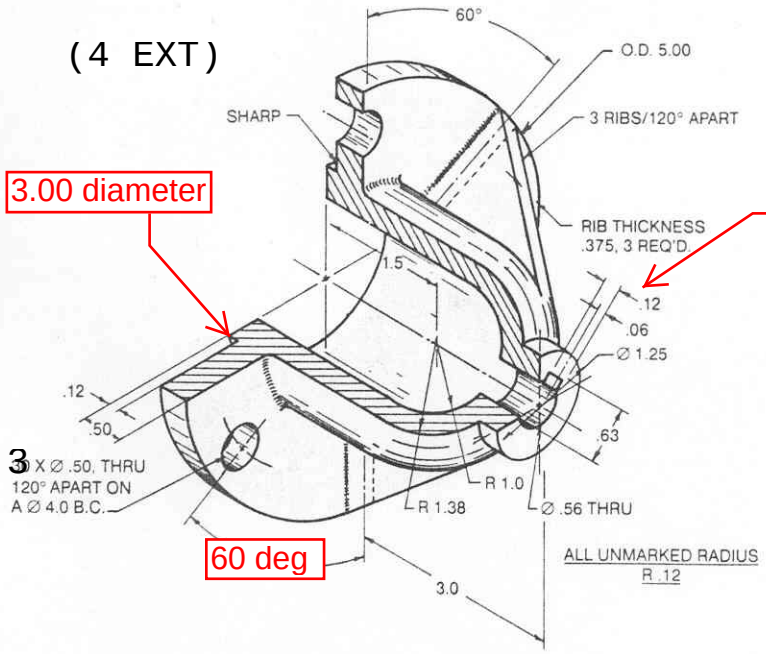
(5 EXT)

AA = cuts thru 1.5 dia & 1.06 dia // to & thru key,
BB = cuts thru 1.06 dia & .56 dia
AA = full
BB = full rotated and offset

Problem 5-6

Center two views within the work area, and make one view a full section. Use correct drafting practices for the keyway, ribs, and holes.

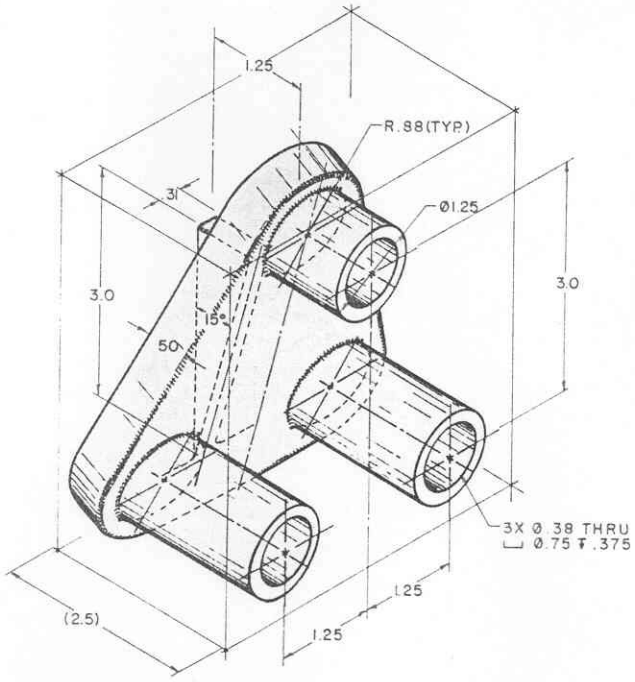
(4 EXT)



Problem 5-6

Problem 5-11

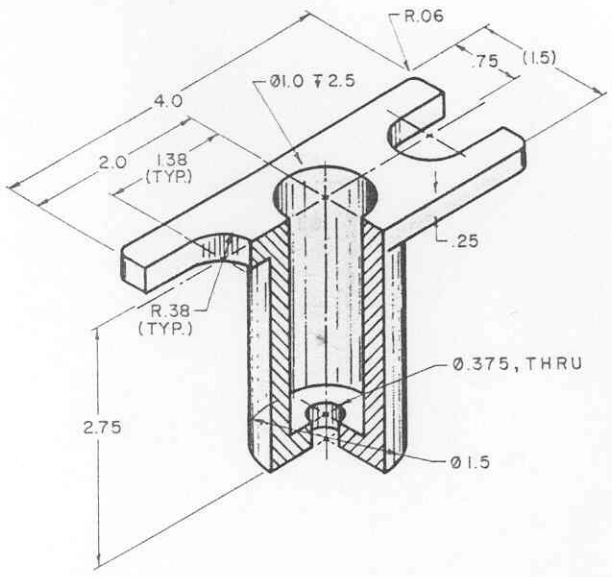
Center two views within the work area, and make one view an offset section. Be sure to include as many of the important features as possible.



Problem 5-11

Problem 5-12

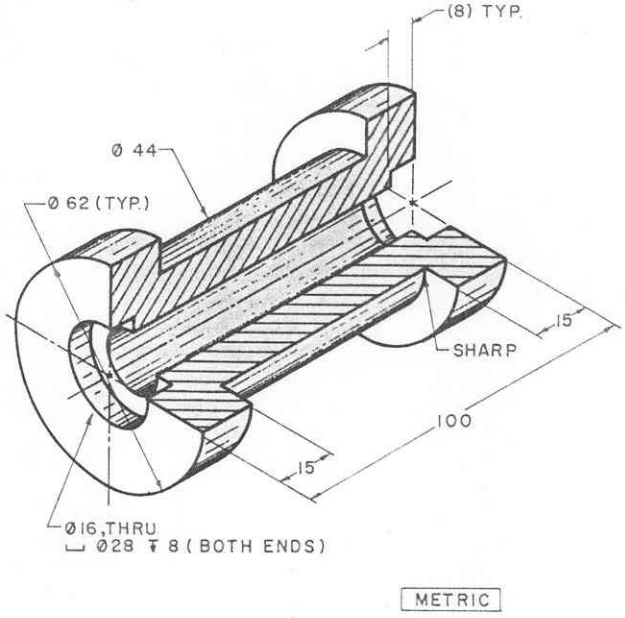
Center the front view and top view within the work area. Make one view a half section.



Problem 5-12

Problem 5-13

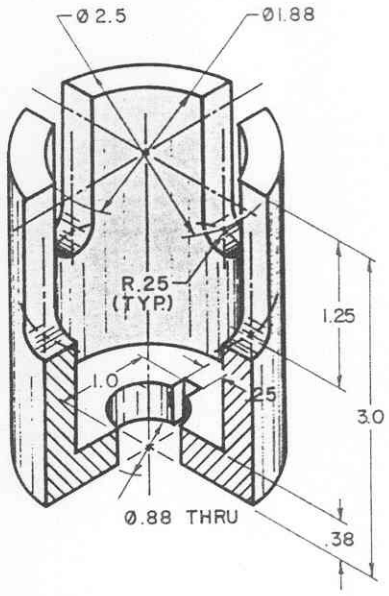
Center two views within the work area, and make one view a half section.



Problem 5-13

Problem 5-14

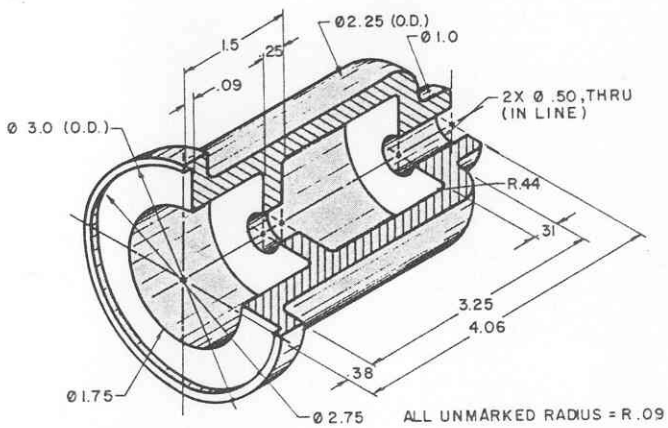
Center the two views within the work area, and make one view a half section.



Problem 5-14

Problem 5-15

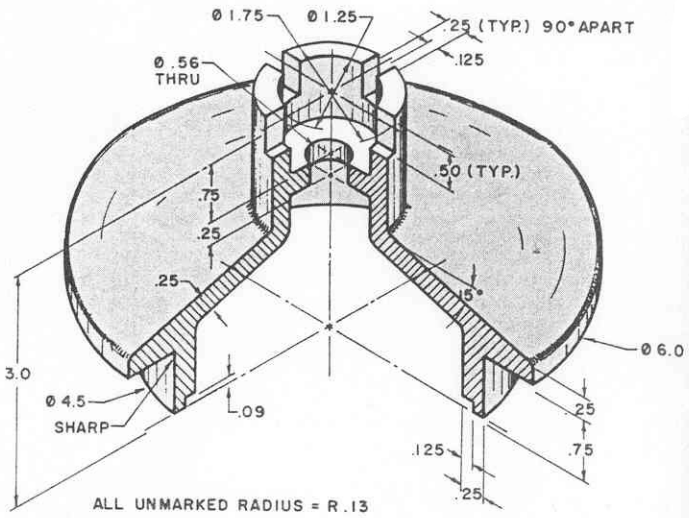
Center two views within the work area, and make one view a half section.



Problem 5-15

Problem 5-16

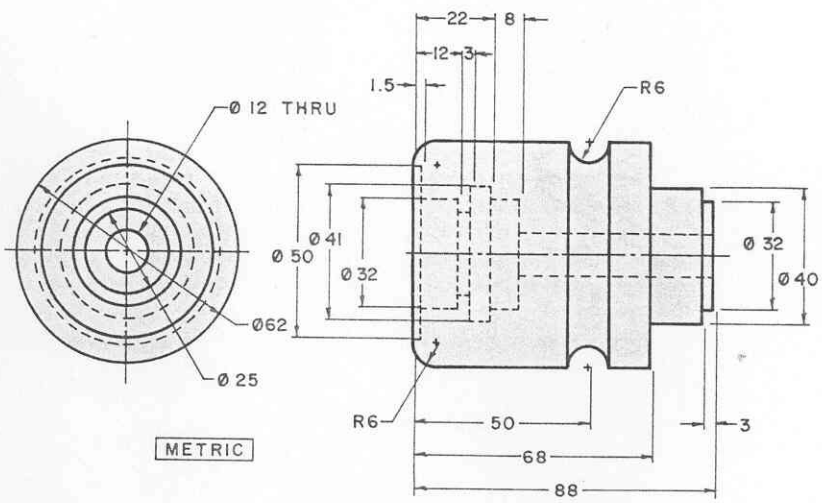
Center two views within the work area, and make one view a half section.



Problem 5-16

Problem 5-17

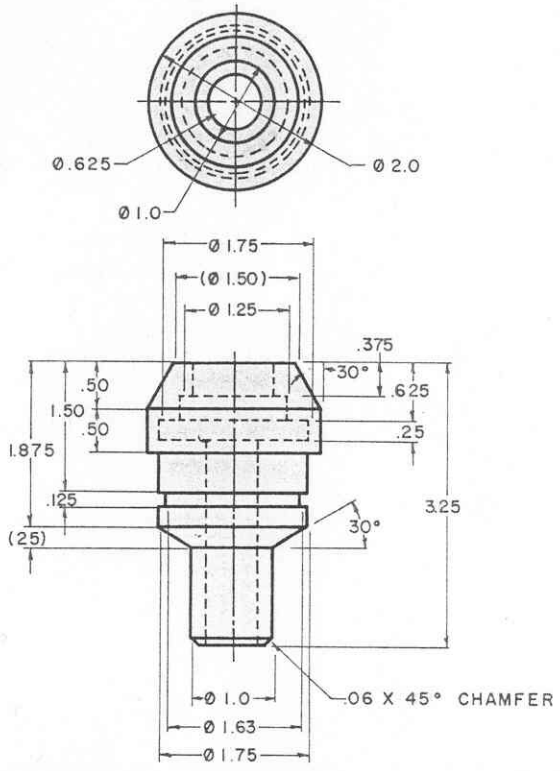
Center the required views within the work area, and make one view a broken-out section to illustrate the complicated interior area.



Problem 5-17

Problem 5-18

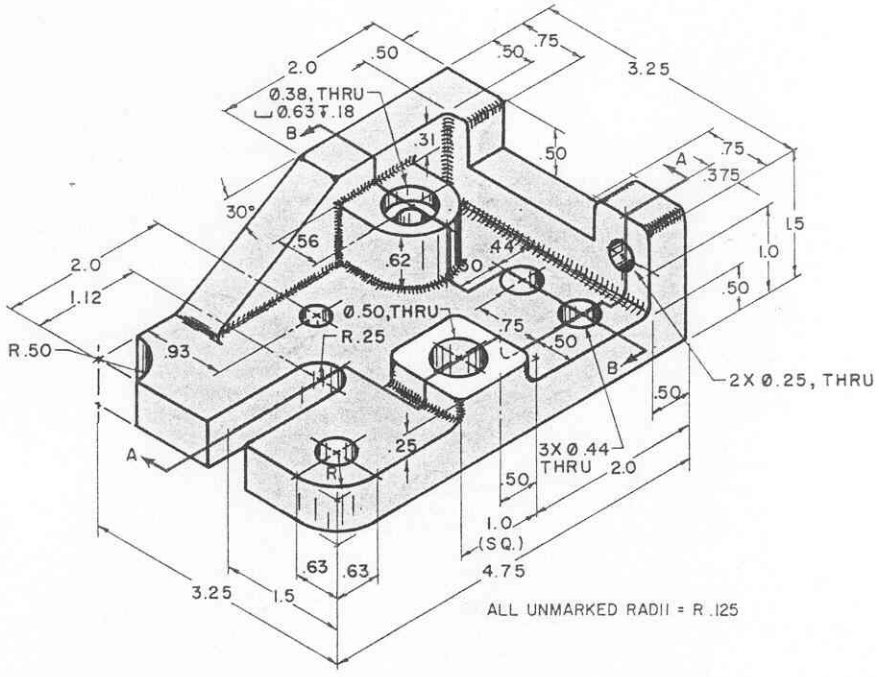
Center the required views within the work area, and make one view a broken-out section as required.



Problem 5-18

Problem 5-19

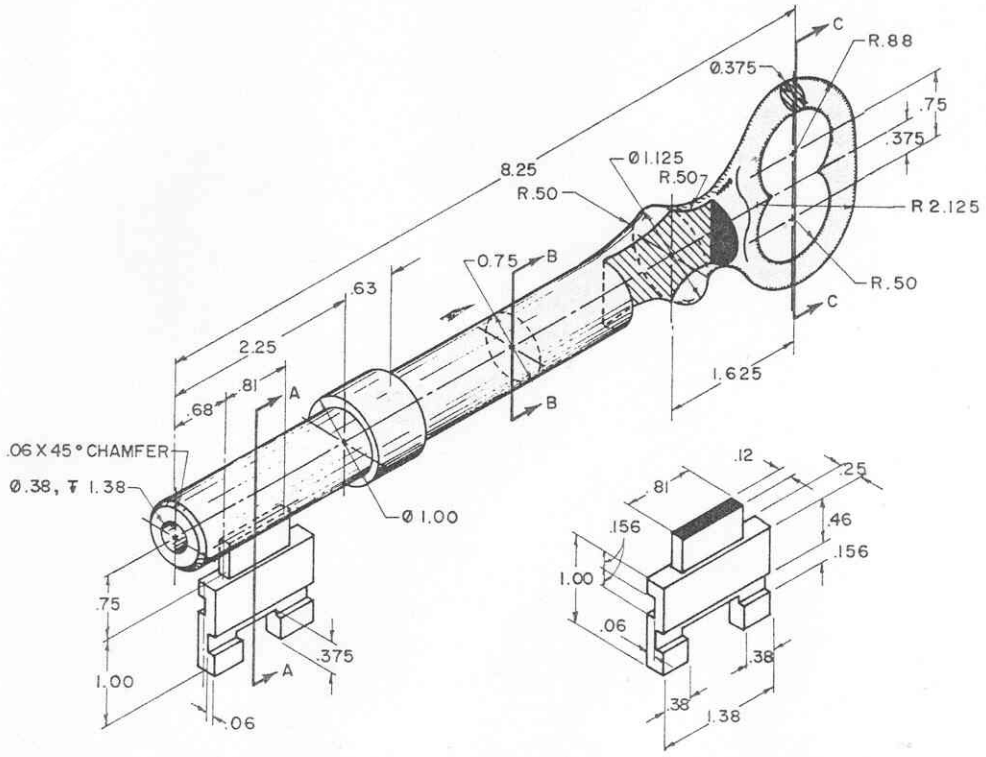
Center three views within the work area, and add removed sections A-A and B-B.



Problem 5-19

Problem 5-20

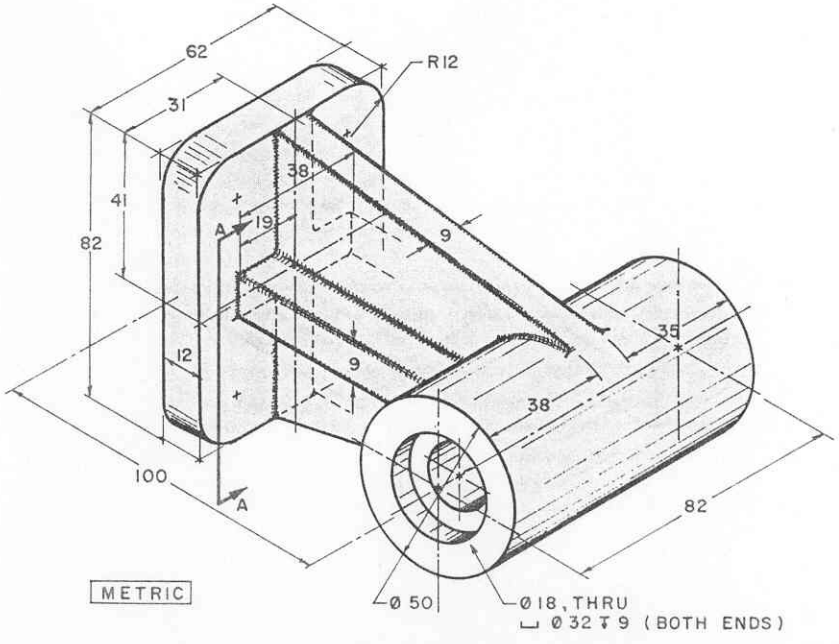
Center two views within the work area, and add removed sections A-A, B-B, and C-C.



Problem 5-20

Problem 5-21

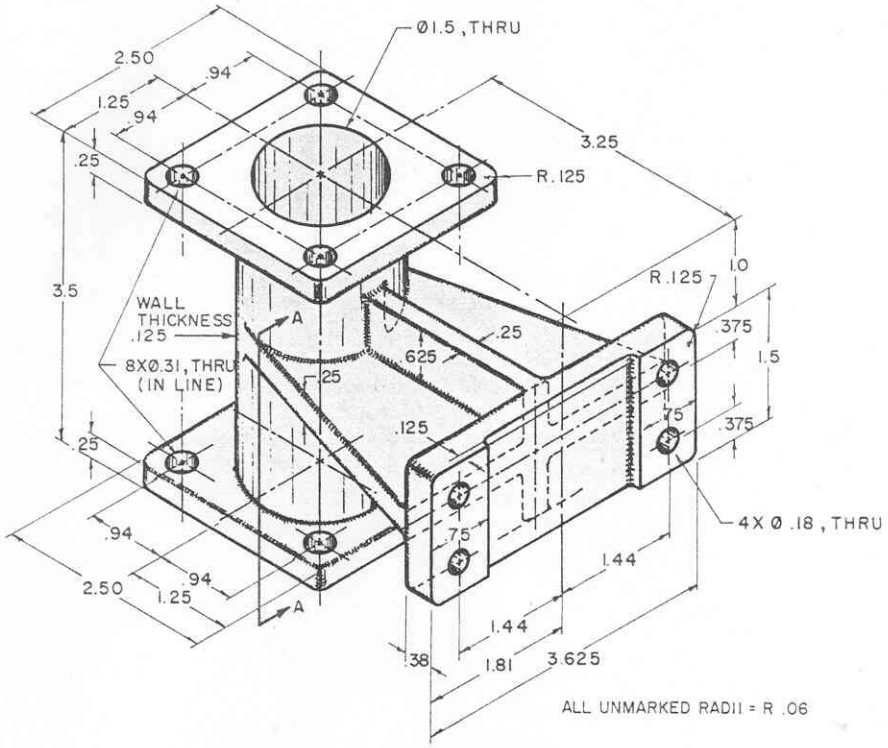
Center the required views within the work area, and add removed section as required.



Problem 5-21

Problem 5-22

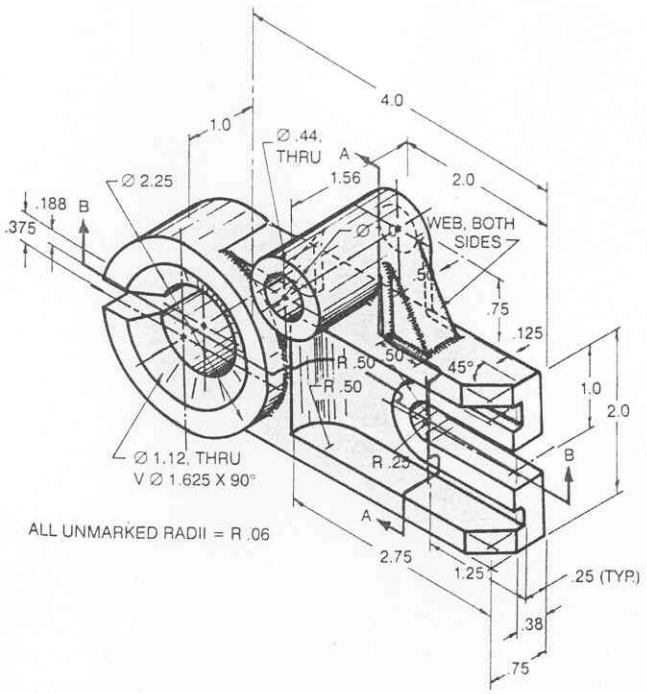
Center the required views within the work area, and add removed section as required.



Problem 5-22

Problem 5-23

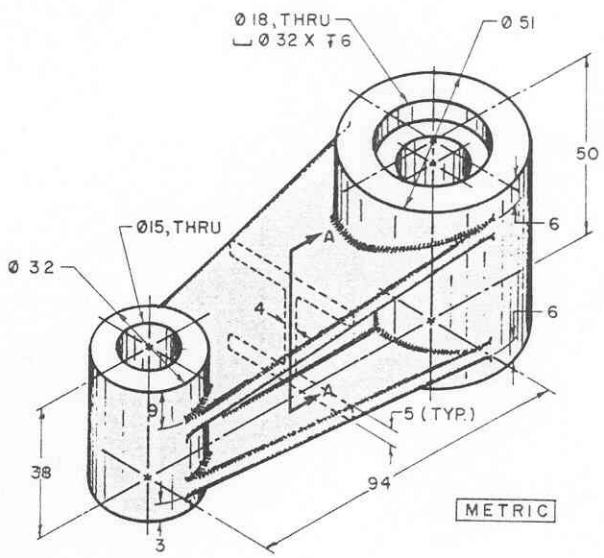
Center the required views within the work area, and add removed sections A-A and B-B.



Problem 5-23

Problem 5-24

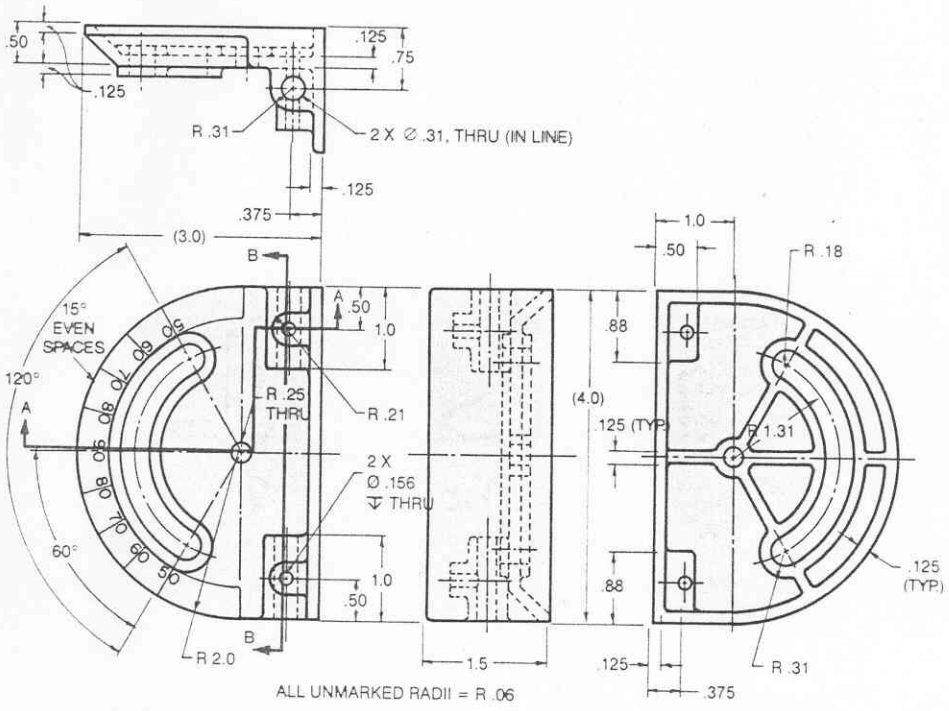
Center the required views within the work area, and add removed section A-A.



Problem 5-24

Problem 5-25

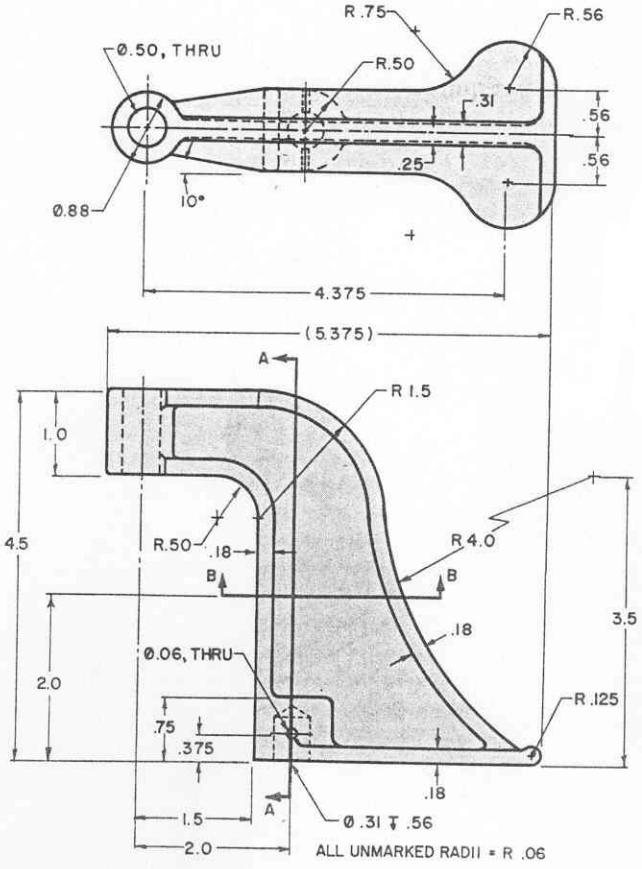
Center the four views within the work area. Make the top view section A-A and the right-side view section B-B.



Problem 5-25

Problem 5-26

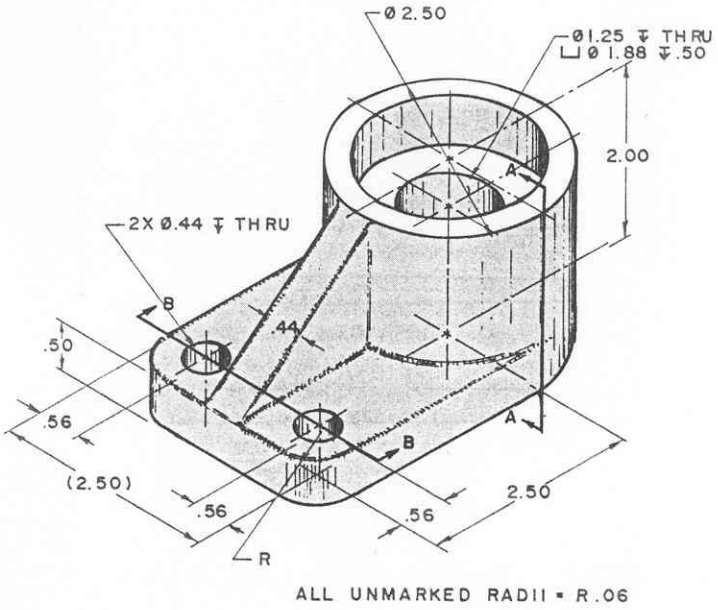
Center the required views within the work area, and add removed sections A-A and B-B.



Problem 5-26

Problem 5-27

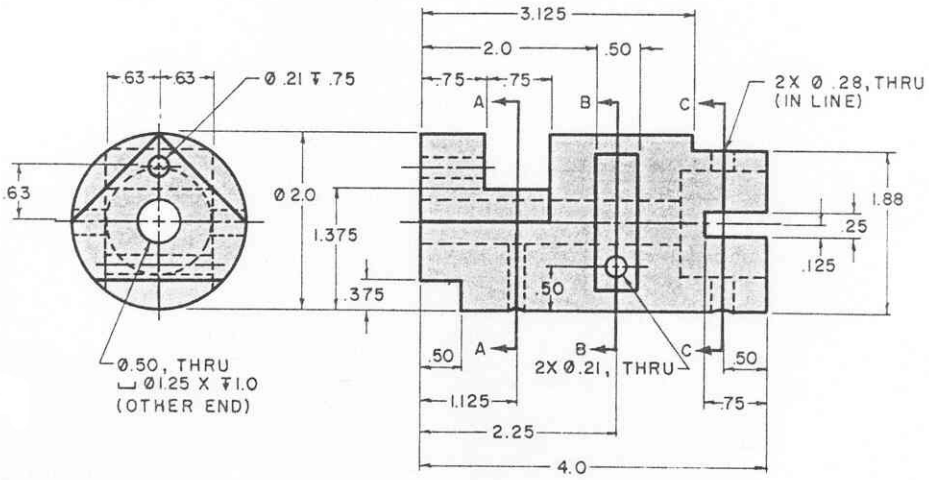
Center the required views within the work area, and add removed sections A-A and B-B.



Problem 5-27

Problem 5-28

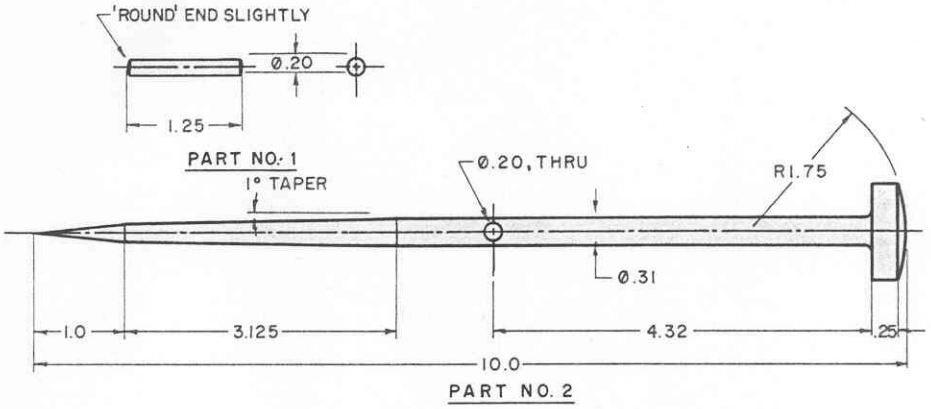
Center the front view, side view and removed sections A-A, B-B, and C-C within the work area.

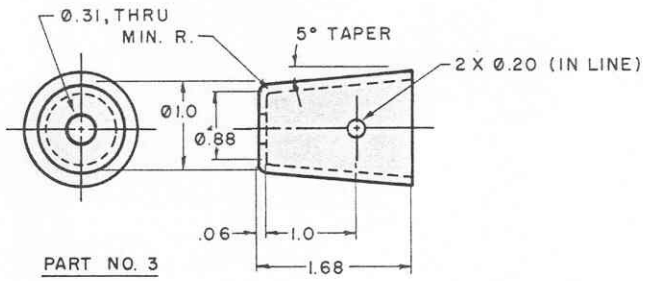


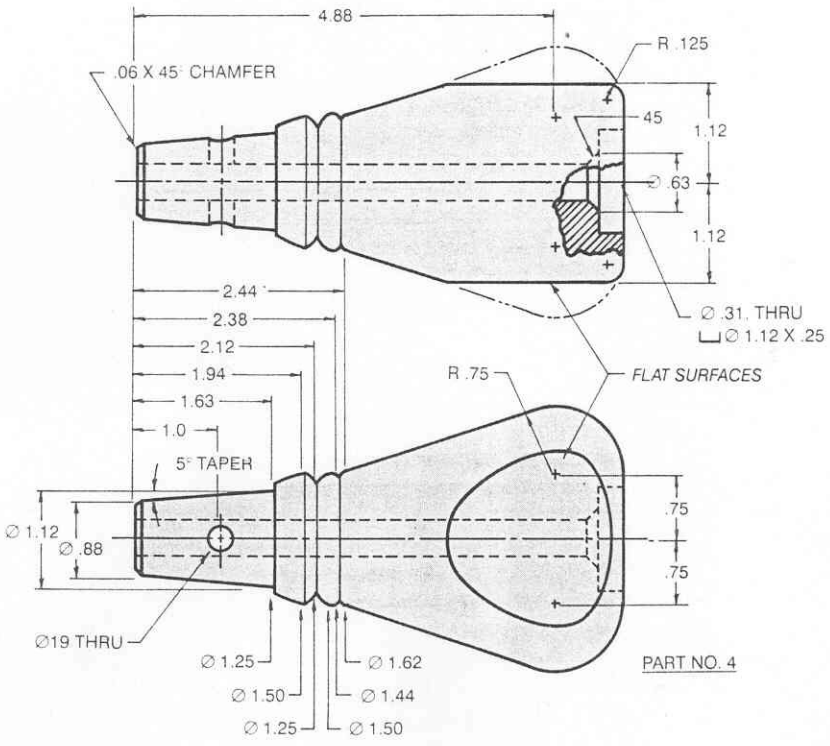
Problem 5-28

Problem 5-29

Make a two-view assembly drawing of parts 1, 2, 3, and 4. Make one view a full-section assembly. Use correct section lining, and all conventional drafting practices.

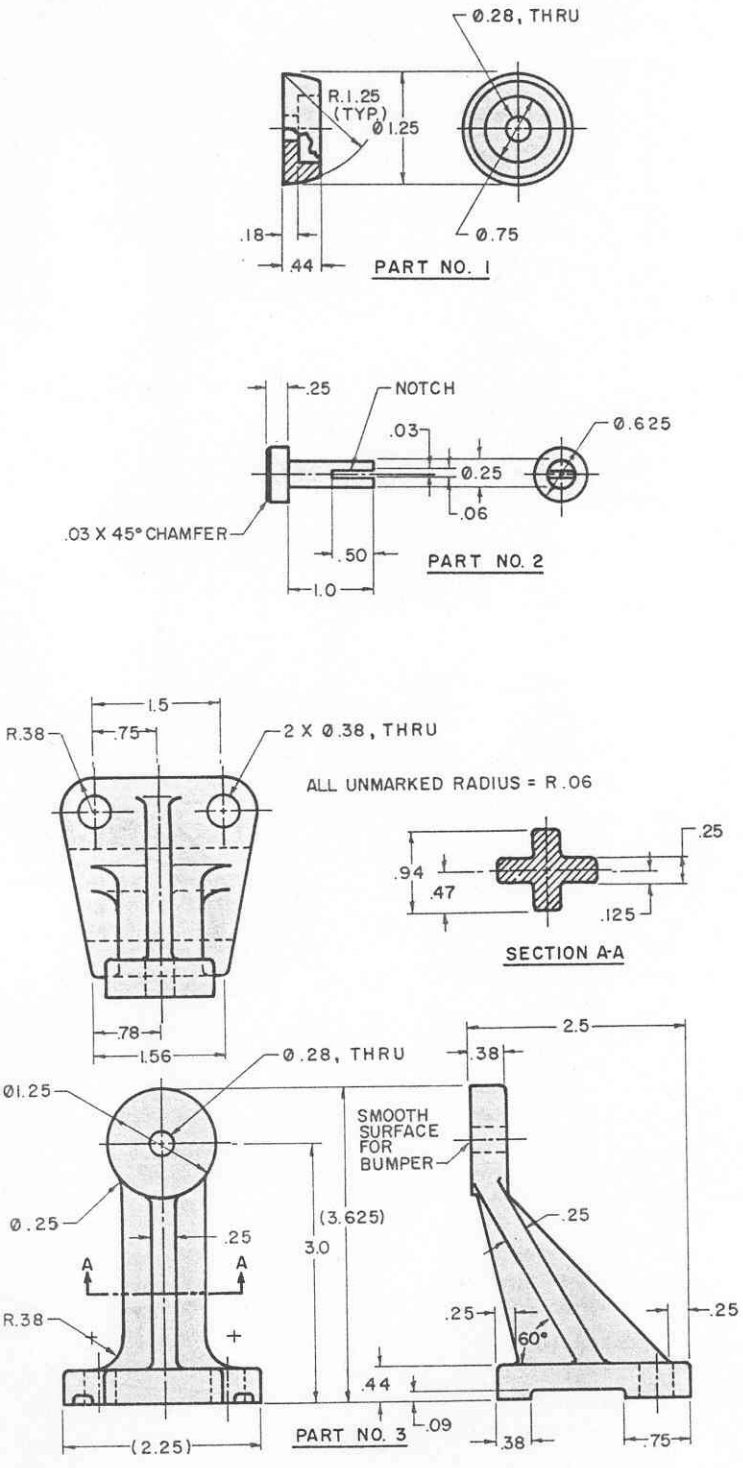






Problem 5-31

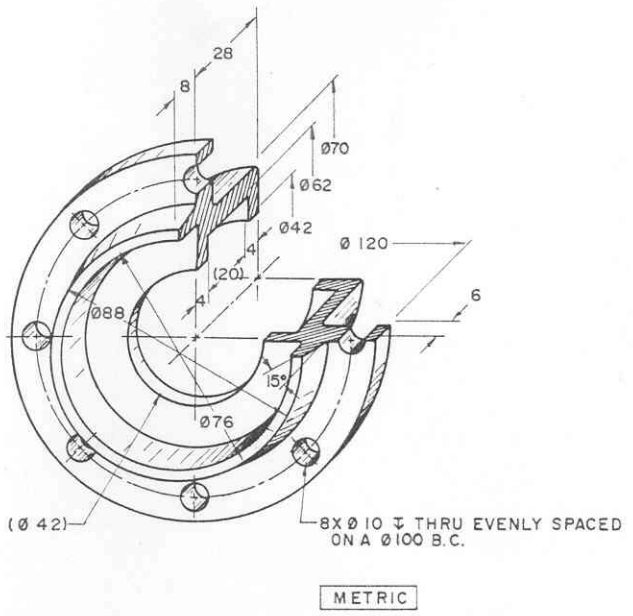
Make a two-view assembly drawing of parts 1, 2, and 3. Make one view a full-section assembly. Use correct section lining and all conventional drafting practices.



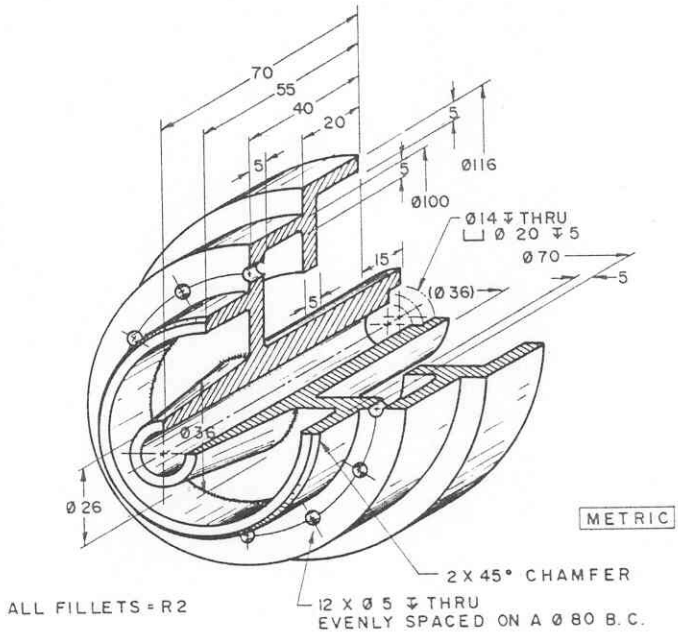
Problem 5-31

Problems 5-32 through 5-37

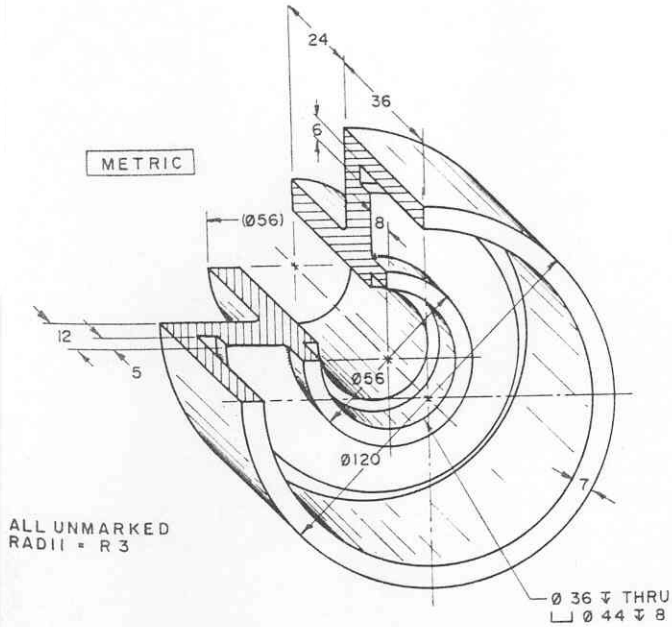
Center required views within the work area. Leave a 1-inch or 25-mm space between views. Make one view into a section view to fully illustrate the object. Use either a full, half, offset, broken-out, revolved, or removed section. Do not add dimensions.



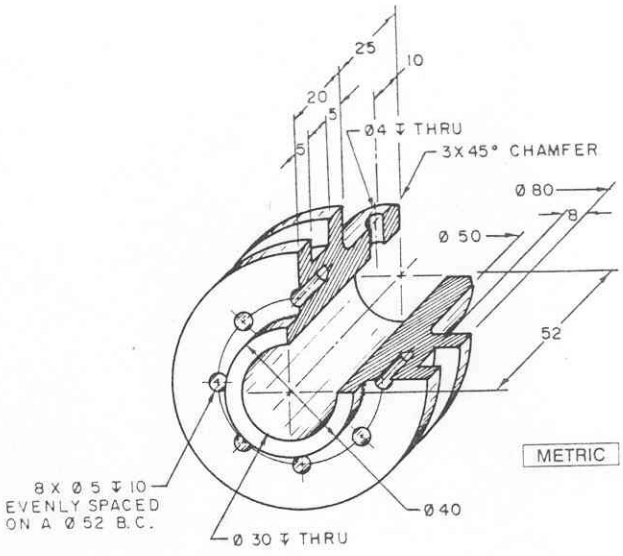
Problem 5-32



Problem 5-34



Problem 5-33



Problem 5-35