

UNIVERSITY OF LONDON
B.Sc. (ENGINEERING) EXAMINATION 1962

PART I

for Internal and External Students

(4) ENGINEERING DRAWING

Thursday, 21 June: 10 to 1

*Answer THREE questions including QUESTION 1, to which about 2 hours should be devoted.
Where geometrical constructions are required, construction lines must be clearly shown.
All answers should be given on the drawing paper provided.*

1. Orthographic views of a valve chest are shown in Fig. 1 on the accompanying sheet. Do not copy the given views as shown but draw *full size* the following:

- (a) a sectional elevation, the plane of the section and the direction of the required view being indicated at X-X;
- (b) an outside elevation as seen when looking in the direction of the arrow E;
- (c) a plan as seen when looking in the direction of the arrow P.

Insert on the drawing SIX important dimensions and in the lower right hand corner of the paper draw a title block $4\frac{1}{2}$ in by $2\frac{1}{2}$ in and insert relevant data including your examination number.

No hidden part lines are to be shown on the drawing. The views may be drawn in either *first* or *third* angle projection and the method of projection used must be stated in the title block.

NOTE:—A careful layout is necessary.

2. A right circular cone has a base diameter of $2\frac{1}{2}$ in and a vertical height of 3 in. Draw a full size plan and elevation of the cone with its axis in the position shown in Fig. 2. The apex of the cone is at the point O.

3. Two flat thin plates are joined together as shown in Fig. 3. Find the true angle between the plates and state its value.

4. The dimensioned elevation of a metal die is shown in Fig. 4. Project a sectional plan on the plane AB. Hidden edges must be shown.

5. The V.T. and H.T. of an oblique plane make angles of 60° and 45° respectively with the 'xy' line. Determine the projections of *any* point (*not* lying upon a trace) which is situated on the plane and at a distance of 4 in from the intersection of the traces.

Hence sketch the approximate plan and elevation of the locus of all such points.

H. T. DAVEY
C. E. DEAR
K. L. JACKSON

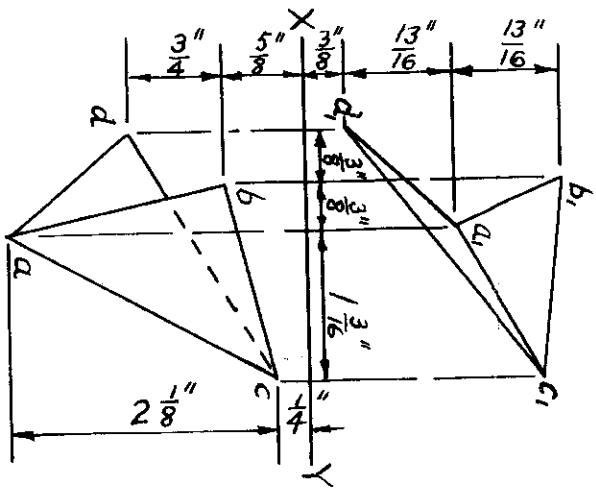


FIG. 3.

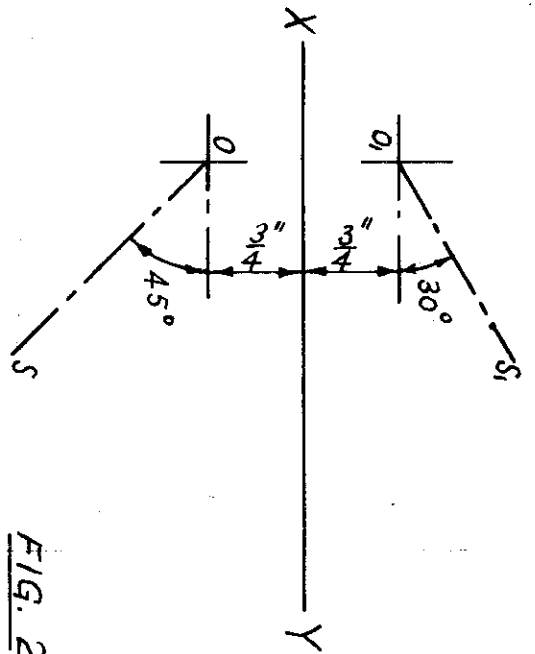


FIG. 2.

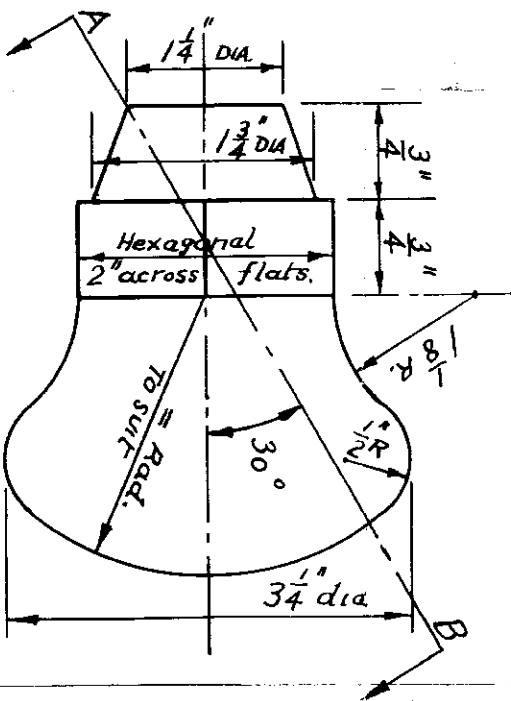


FIG. 4.

FIG 1 IS ON THE REVERSE
SIDE OF THIS SHEET

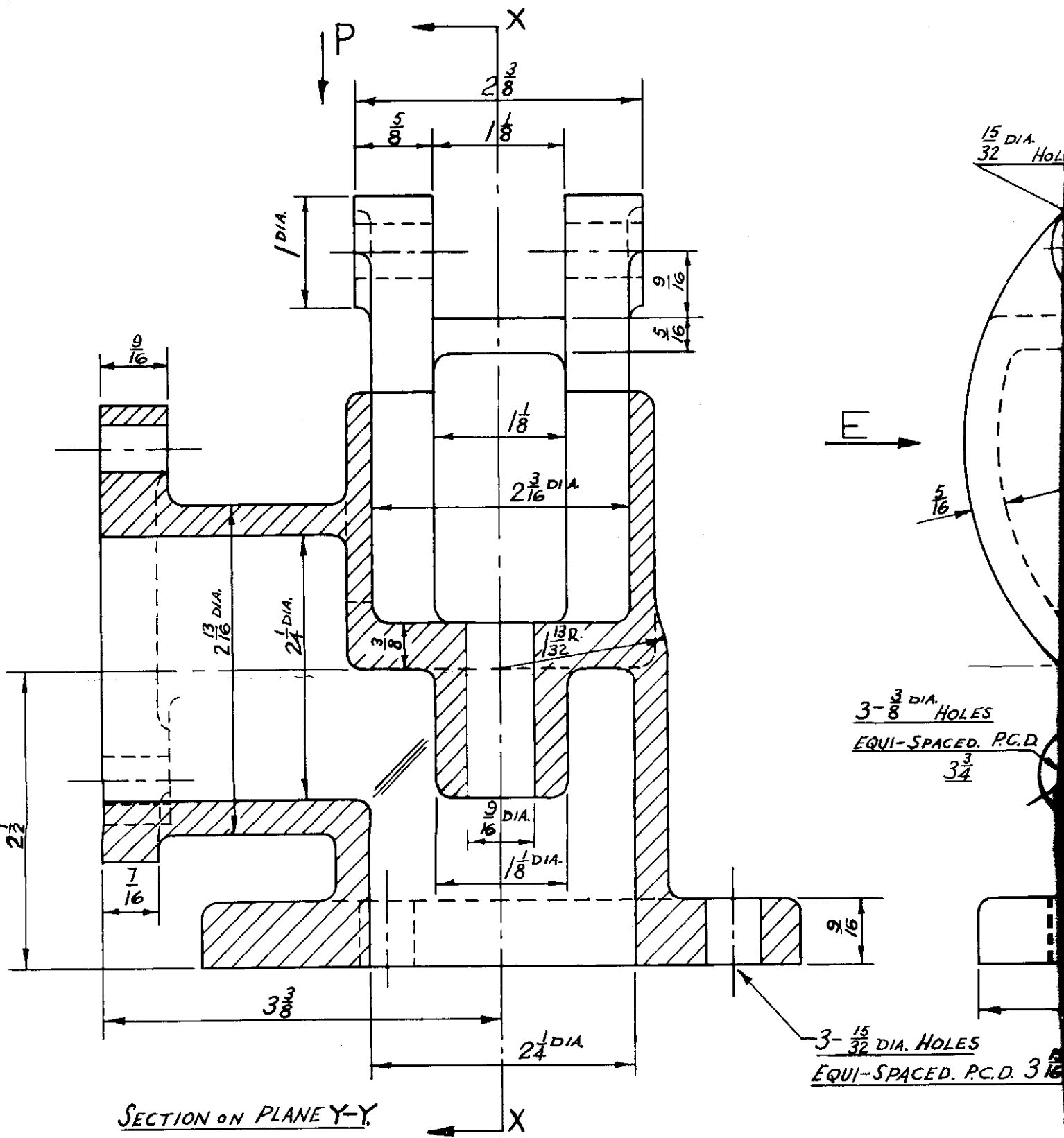


FIG. 1
 FIRST ANGLE PROJECTION
 ALL DIMENSIONS ARE IN INCHES
 FILLET & CORNER RADII $\frac{1}{8}$

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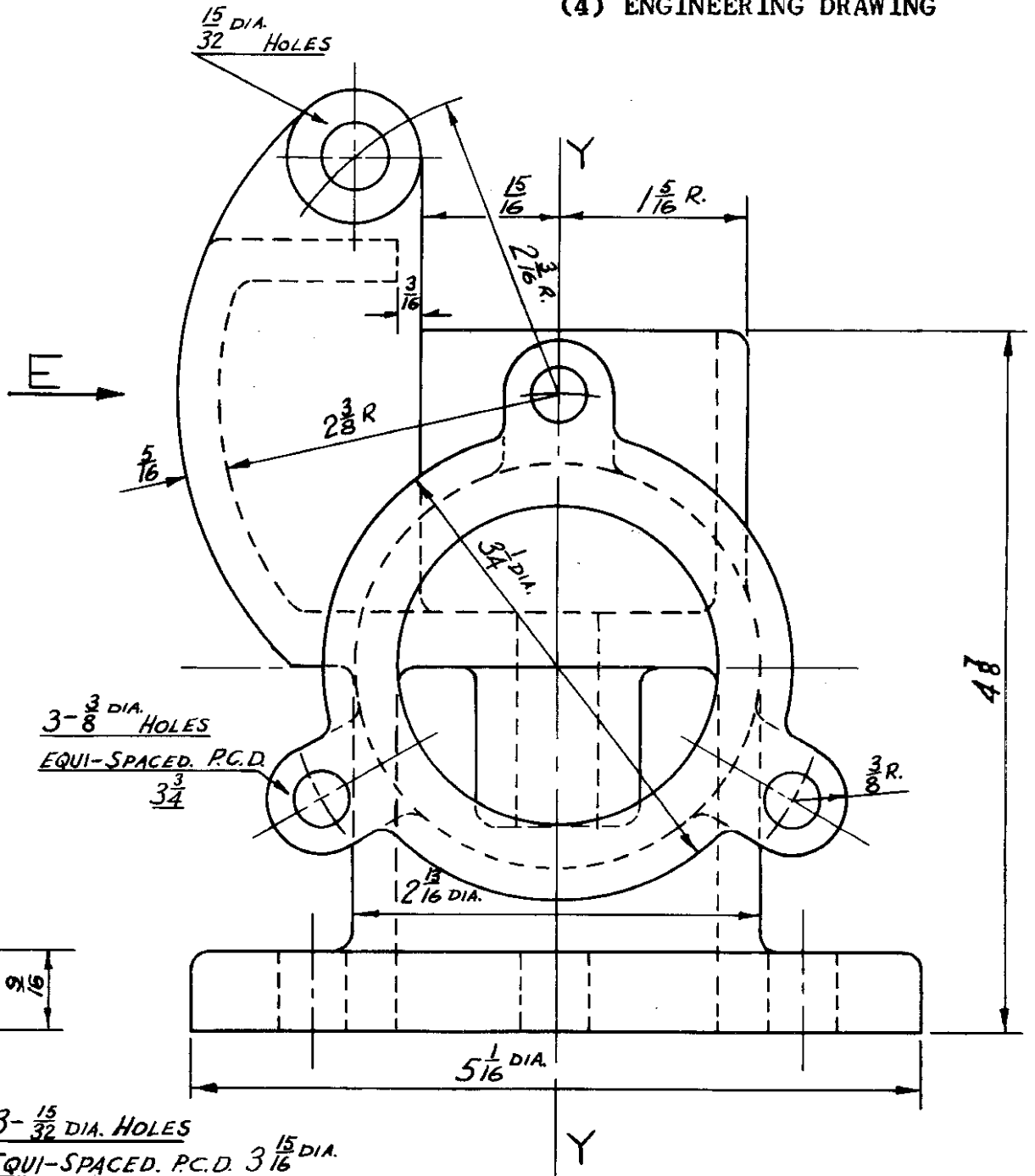


FIG. 1
 FIRST ANGLE PROJECTION
 ALL DIMENSIONS ARE IN INCHES
 FILLET & CORNER RADII 8

FIGS 2, 3 AND 4 ARE ON THE
 REVERSE SIDE OF THIS SHEET