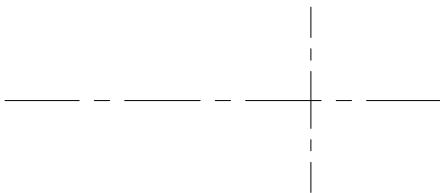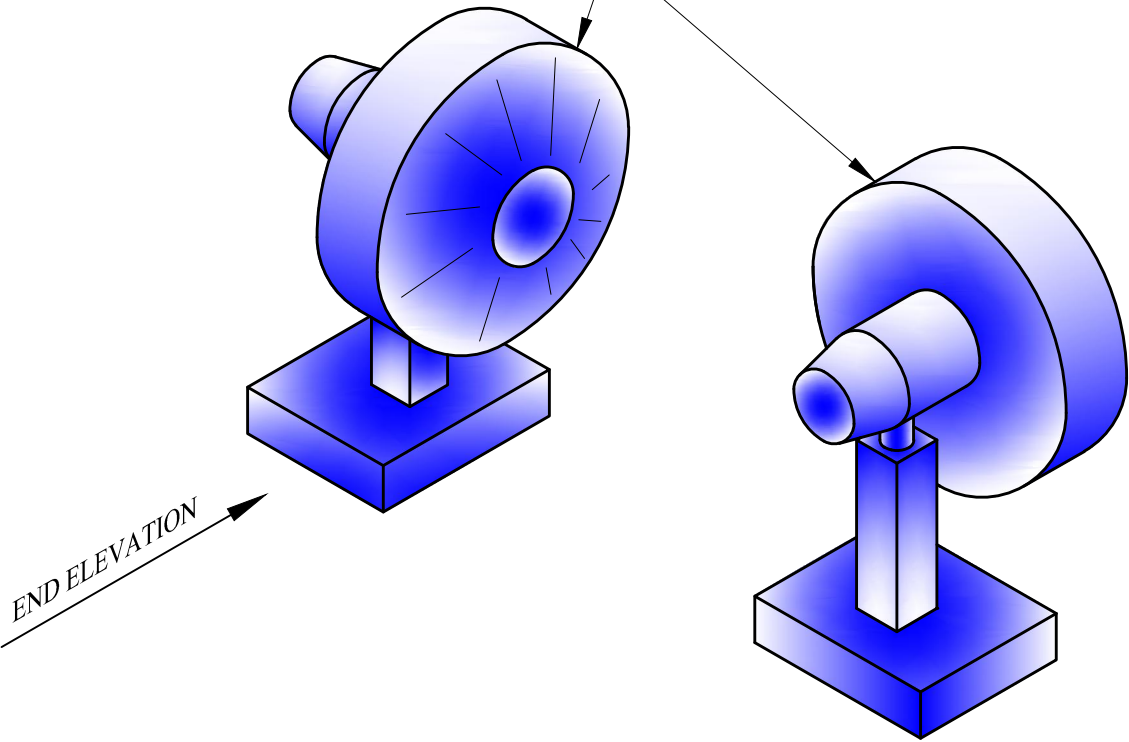QUESTION No. 1

Two pictorial views and two orthographic views of a desk fan
are shown. For drawing purposes, the protective shield is
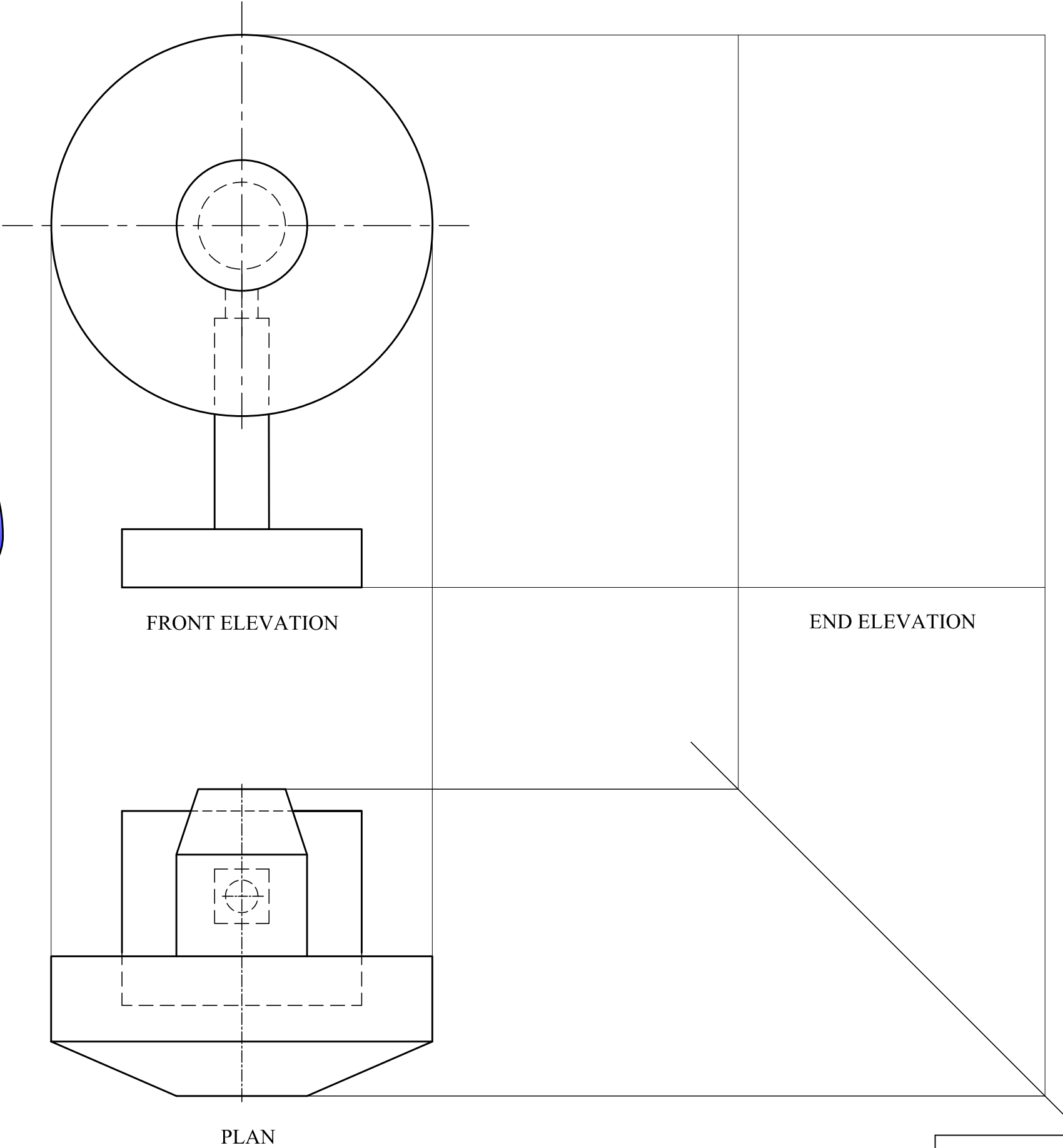covered and the fan blades are not visible.
(a) By projecting lines from the front elevation and plan, draw
an end elevation of the fan as indicated by the arrow.
(b) Draw the symbol of projection used.
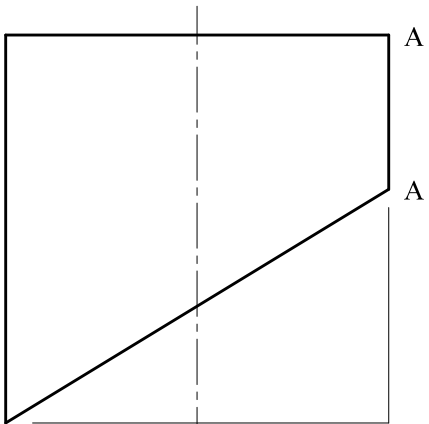
18 marks

FAN PROTECTIVE SHIELD (COVERED)

END ELEVATION

SYMBOL OF PROJECTION

FRONT ELEVATION
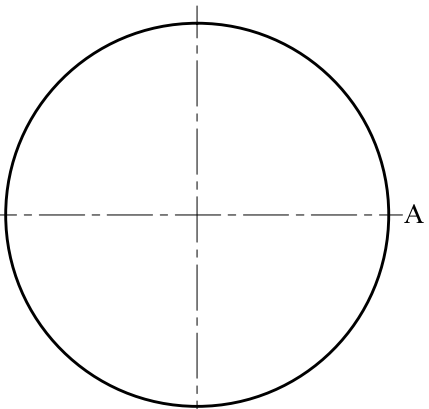
END ELEVATION

PLAN

Sheet 1 of 4

QUESTION No. 2

A round canopy used to collect fumes from a fireplace,
is connected to three cylindrical pipes.
A front elevation and a plan of pipe X are drawn below.
Using the given start lines below, draw the **development** of the
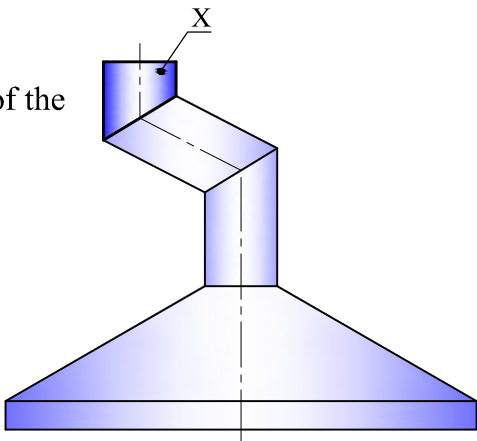pipe assuming the joint to be along AA.
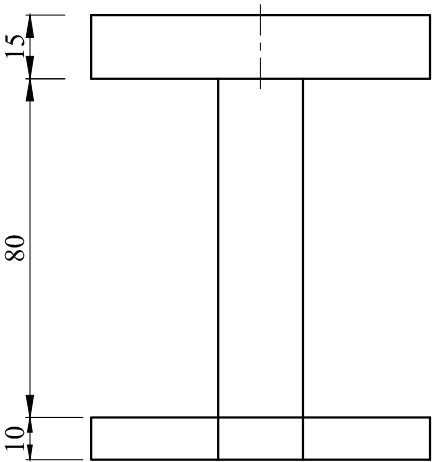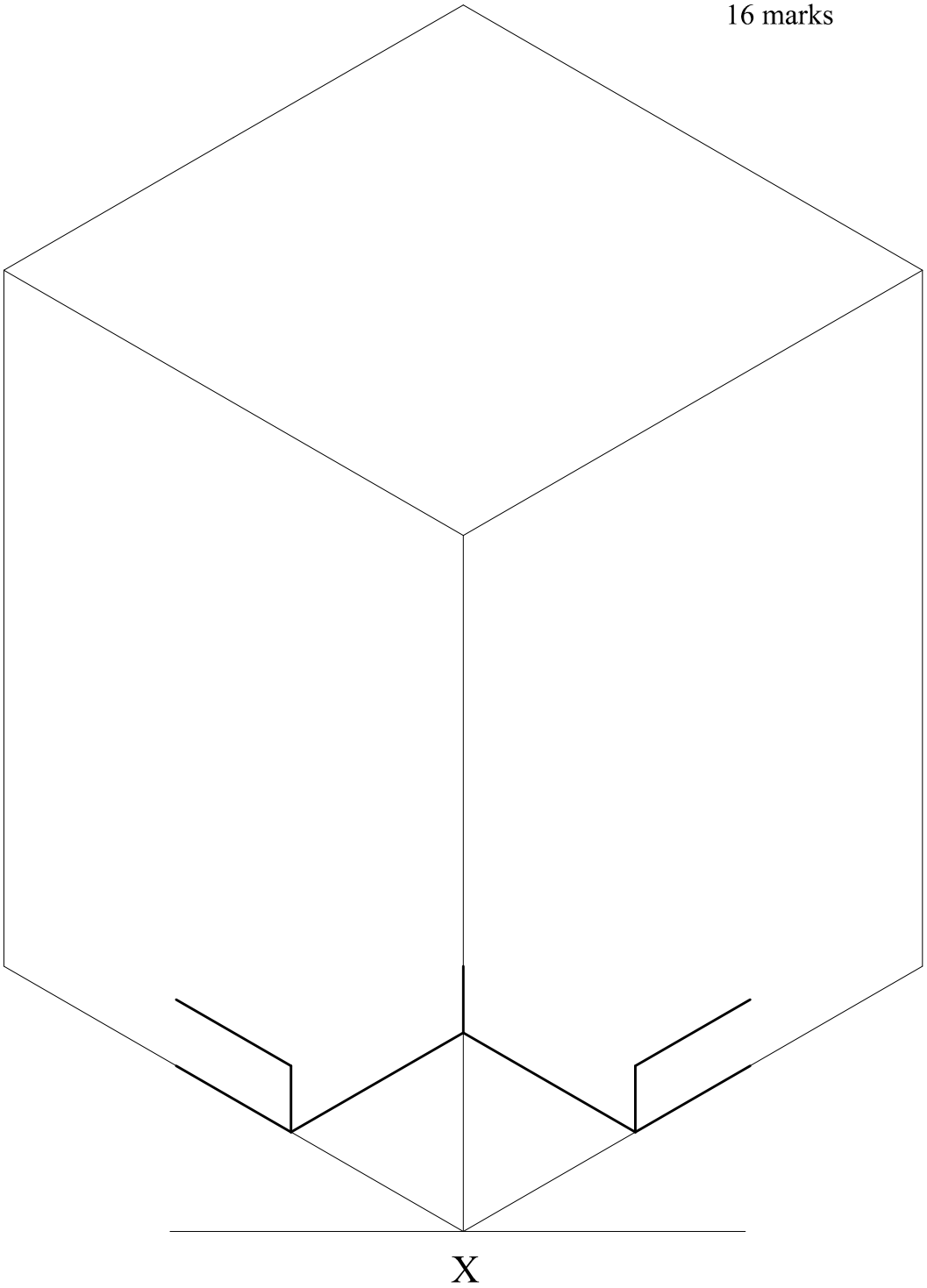
14 marks
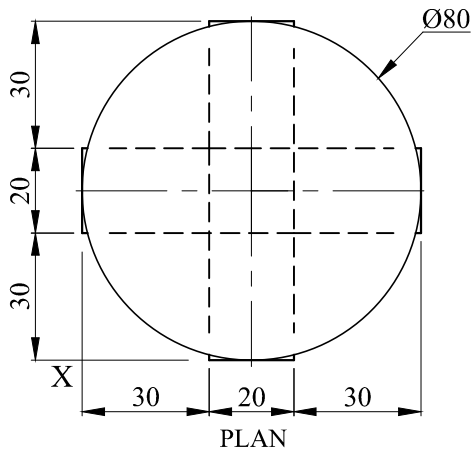
X

FRONT ELEVATION

PLAN

A

DEVELOPMENT

QUESTION No. 3

Two orthographic views of a table with a circular top are shown.
Within the given crate, draw an **isometric projection** of the table,
putting point X as the lowest corner.
Part of the base of the table is already drawn.

16 marks

15

80

10

X

FRONT ELEVATION

Ø80

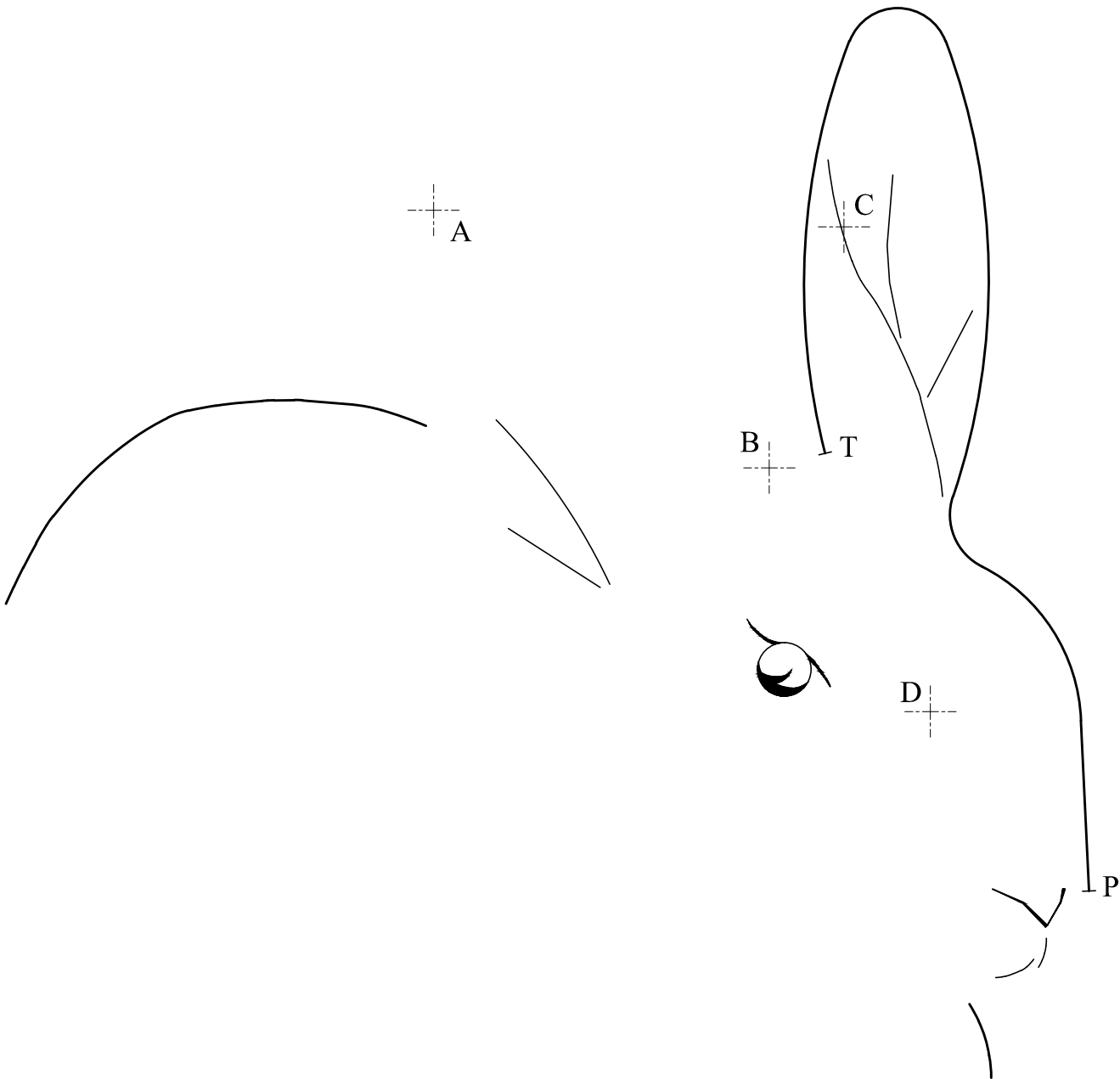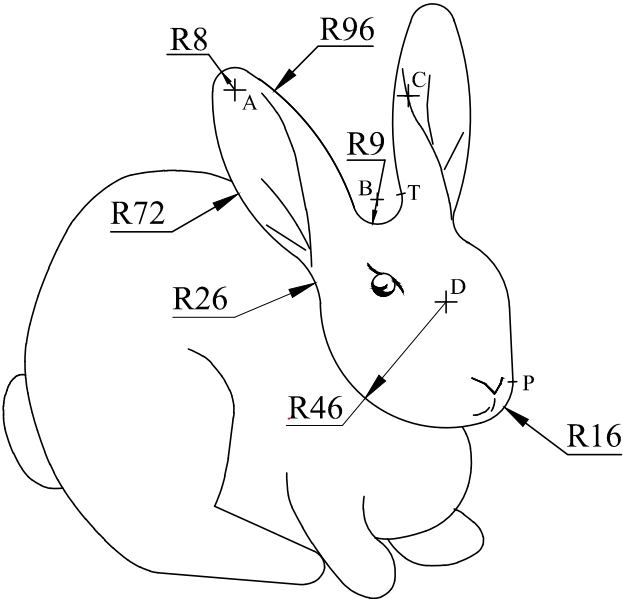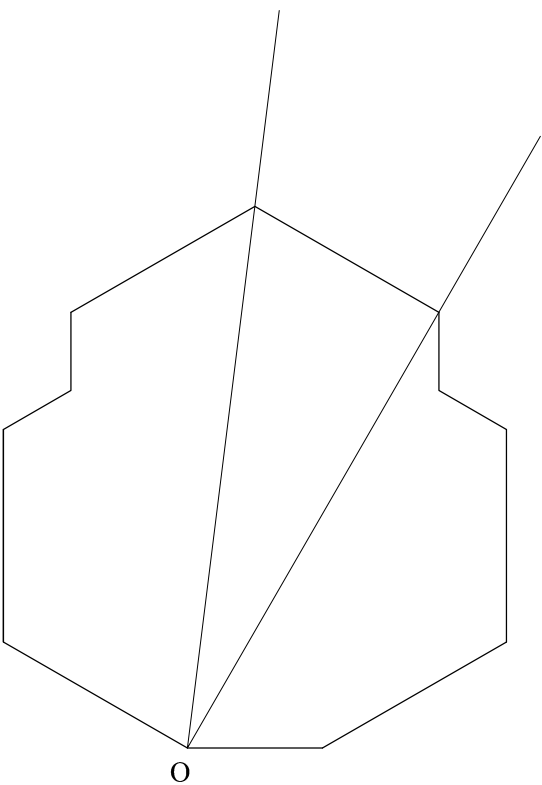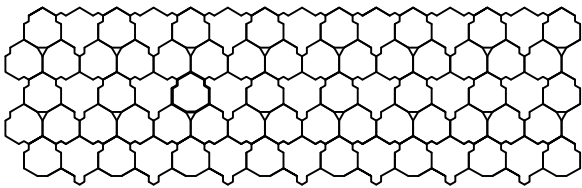30

20

30

X

30   20   30

PLAN

X

QUESTION No. 4

A dimensioned profile of a rabbit and an
incomplete version of the head are given.
Starting from the given centres A, B, C and D,
construct geometrically the remaining part of the
rabbit head, showing all construction used to find
the centres of the arcs.
Also mark the points of tangency.
Notes: C is the centre of the arc of radius 72mm.
         T and P are points of tangency.
                                                    14 marks

R8   R96

R9

R72

R26

R46   R16

A
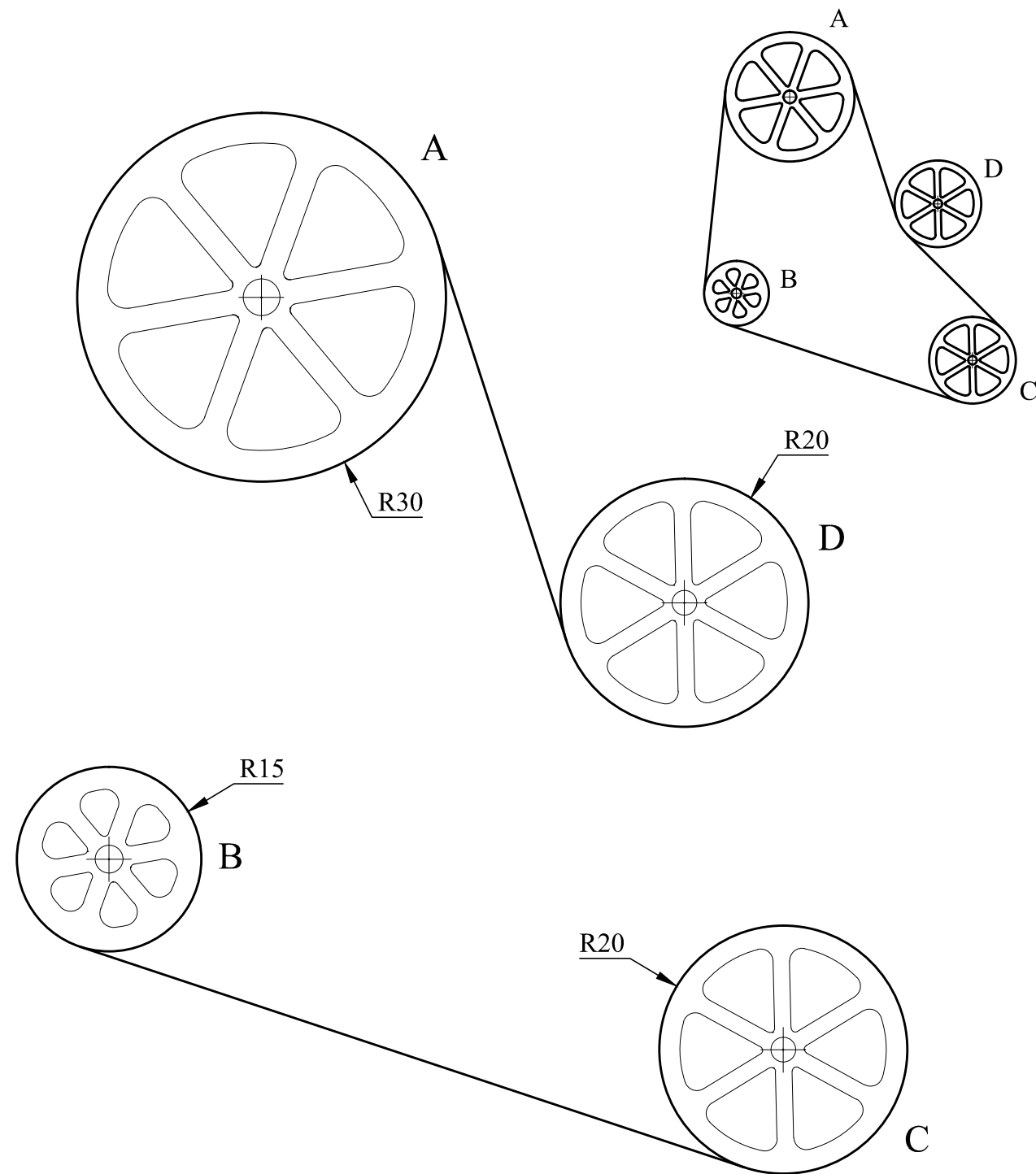
B   T

C

D

P

QUESTION No. 5

A lace design is made up of a large
number of similar patterns joined together.
Enlarge the pattern given below by a ratio
of 5:4, taking radial lines from O.
Two radial lines are already drawn.
                                                    12 marks

O

Sheet 3 of 4

QUESTION No. 6

A number of pulleys are driven by a belt as shown. Two parts of the belt
shown below are missing. The part of the belt between pulleys A and B forms
a common (external) tangent between two unequal circles. The part between C
and D forms a transverse (internal) tangent between two equal circles.
Complete the drawing below by constructing the two tangents.

14 marks

A

A

D

B

C

R30

R20

D

R15

B

R20

C

QUESTION No. 7

Using the two circles given at the bottom, draw the eight-pointed star based on
the construction shown below.
Colour or shade your drawing.
All construction lines must be left shown.

12 marks