教育科学“十五”国家规划课题研究成果

CHINESE-ENGLISH

PROBLEM BOOK for ENGINEERING GRAPHICS

中英双语

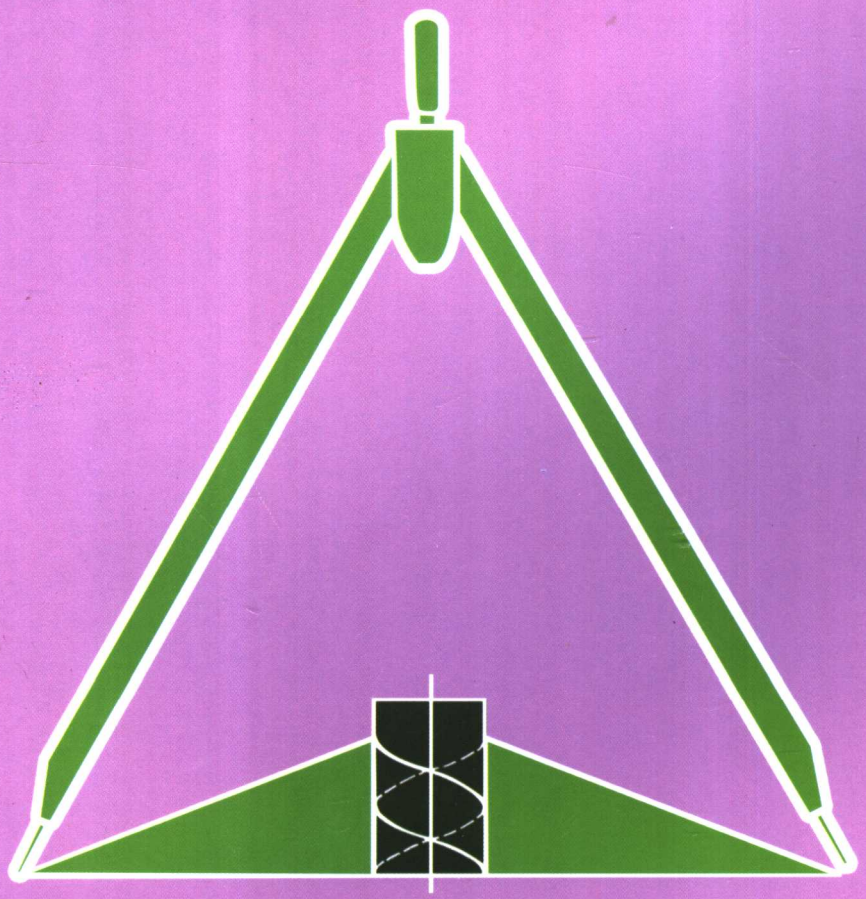
工程图学习题集

钟家麒（Zhong Jiaqi） 编

［美］S.D. 洛克哈特 ［中］刘朝儒 审定

Examined and approved by

Shawna D. Lockhart & Liu Chaoru



高等教育出版社

Higher Education Press

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物料号 19310-00

序　言

本习题集是为配合《工程图学》（中英双语）主教材使用而编写的。在内容顺序安排上与主教材一致。

在每个题目前标有两个数字，用半字线分开，前一数字表示《工程图学》教材的章次，后一数字为该章内容的题目顺序号。本题集提供了数量充足的习题，可供教师按不同学时专业的“教学基本要求”选用。其基本部分适用于所有专业，包括少学时专业。以此为起点，凡属非机械类和机械类适用的题目均在其题号前分别标以单星号和双星号；选学内容“展开”的题目用剑号标示。

在主教材所附的一张多媒体教学光盘内含有电子习题集和电子解题辅导，其中习题是在 AutoCAD 平台上绘制的，学生可使用计算机进行练习。

承美国蒙大拿州立大学机械工程系 Shawna D. Lockhart 教授审定了本习题集的英文部分，特致谢忱。

上海交通大学科技英语系黄人杰教授审阅了全部书稿；清华大学刘朝儒教授审定了本教材内容。在此一并表示衷心的感谢。

刘李明（江苏科技大学工程图学教研室）负责习题集图文录入计算机的工作，在此表示谢意。

最后，热诚欢迎读者对改进本书的一切批评和建议。

钟家麒

江苏科技大学

由钟家麒编著的英文版《工程图学》（含习题集）曾于 1995 年获国家教育委员会授予的高等学校优秀教材二等奖。

Preface

This problem book is compiled to be used as a supplement to the textbook Engineering Graphics (Chinese-English). The problems in the book appear in the same order as its associated sections in the textbook.

Each problem is prefixed with two numbers, separated by a dash. The first number refers to the related chapter in the textbook and the second one is the serial number of the problem itself. This problem book offers a large selection of problems that the teachers can use according to the "Basic Teaching Requirements" for college specialties with different class hours. The basic problems are suitable for all specialties, including the ones with very few class hours. With this being the starting point, all problems suitable for non-mechanical and mechanical specialties are preceded with one asterisk and double asterisks, respectively; problems in the elective material "Development" are marked with a dagger.

The electronic versions of the problem book and problem-solving tutorials are included in the multimedia tutorial CD attached to the textbook. The problems are prepared with the AutoCAD platform and students can do exercises using computers.

My special thanks go to Professor Shawna D. Lockhart (Department of Mechanical Engineering, Montana State University), who approved the English version of this problem book after a thorough final check.

I wish to express my sincere thanks to the following: Professor Huang Renjie (Department of English for Science and Technology, Shanghai Jiaotong University), who examined the whole manuscript; and Professor Liu Chaoru (Tsinghua University), who examined and approved the contents of this teaching material.

Thanks also go to Liu Liming (Teaching and Research Section of Engineering Graphics, Jiangsu University of Science and Technology), who was responsible for entering texts and graphs of this problem book into the computer.

Finally, all comments and suggestions for the improvement of this book are cordially welcome and appreciated.

Zhong Jiaqi

J. U. S. T.

The English edition of Engineering Graphics (including the Problems) compiled by Zhong Jiaqi was awarded the second prize for excellent teaching material for institutions of higher learning by the former National Education Committee in 1995.

郑重声明

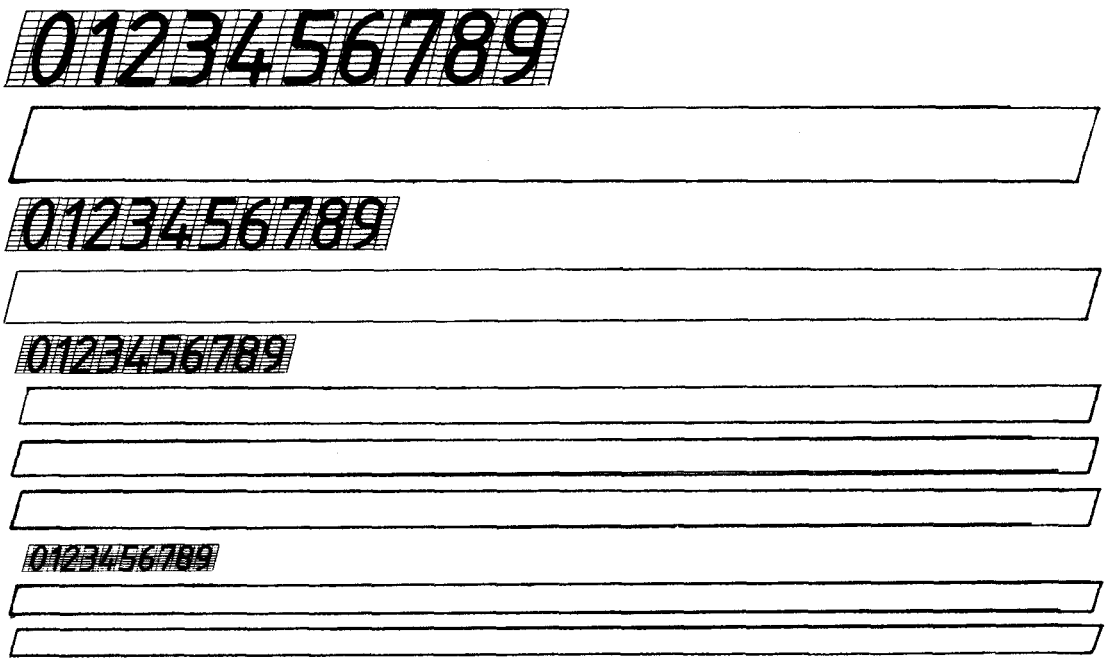
目　录
Contents

解题前沿此线将尺竖起并压住书，同时撕下题纸。

Before solving the problems erect a ruler on this line, press it against the book and rip the problem sheet off.

1-1. 抄写下列字母。 Copy the letters below.

1-2. 抄写下列数字。 Copy the numerals below.



班级 CLASS 姓名 NAME

1-3. 抄写下列汉字。 Copy the Chinese characters below.

字 体 端 正 笔 画 清 楚 排 列 整 齐 间 隔

均 匀 汉 字 应 书 写 成 长 仿 宋 体 横 平

竖 直 注 意 起 落 结 构 匀 称 填 满 方 格

1-4. (a) 用7号长仿宋体字写出以下句子。 Letter the following statements in size 7 long imitation-Song-typefaces.

1. 书法能构成美观漂亮的图样，也能毁了一张本来不错的图样。
2. 写字之前始终画出水平导线。
3. 英语单词与单词之间应保持约等于一个大写O的距离。

(b) 用5号直体的大写字母写出以下句子。 Letter the following statements in size 5 vertical capital letters.

1. LETTERING CAN EITHER MAKE OR BREAK AN OTHERWISE GOOD DRAWING.
2. ALWAYS DRAW HORIZONTAL GUIDE LINES BEFORE LETTERING.
3. KEEP THE SPACE BETWEEN ENGLISH WORDS APPROXIMATELY EQUAL TO A CAPITAL O.

1-5. 抄写下列汉字。 Copy the Chinese characters below.

装配时作斜度深沉最大小球厚直网纹均布水平

镀抛光研视图向旋转前后表面展开两端中心孔

锥销键技术要求对称不同轴垂线相交行径跳动

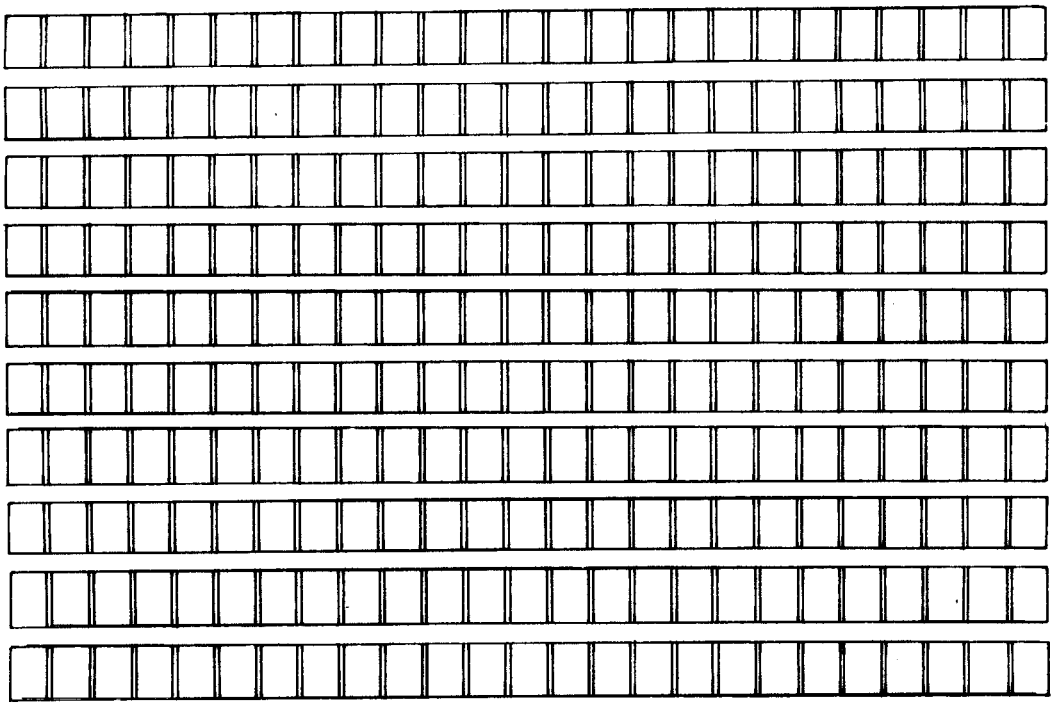
弯曲形位移允许偏差内外左右检验数值范围应

符合于等级精热处理淬退回火渗碳硬有效总圈

并紧其余未注明按全部倒角螺栓母钉双头密封

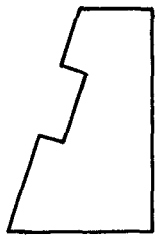
垫片顶盖底座托盘支架箱体床身汽缸活塞滑块

套筒烯油拉杆拖板铭牌手齿链凸轮皮带防护罩

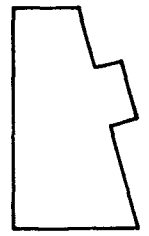


1-6. 标注下列平面图形的尺寸。比例：1:1。 Dimension the plane figures below. Scale: 1:1.

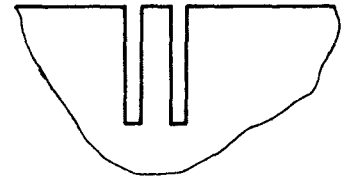
A



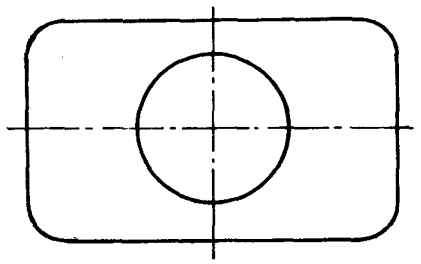
B



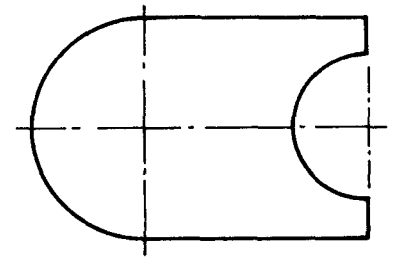
C



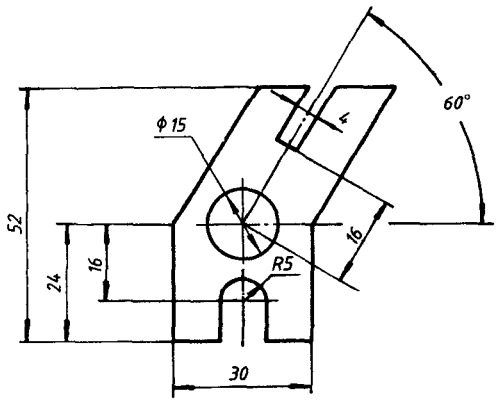
D



E

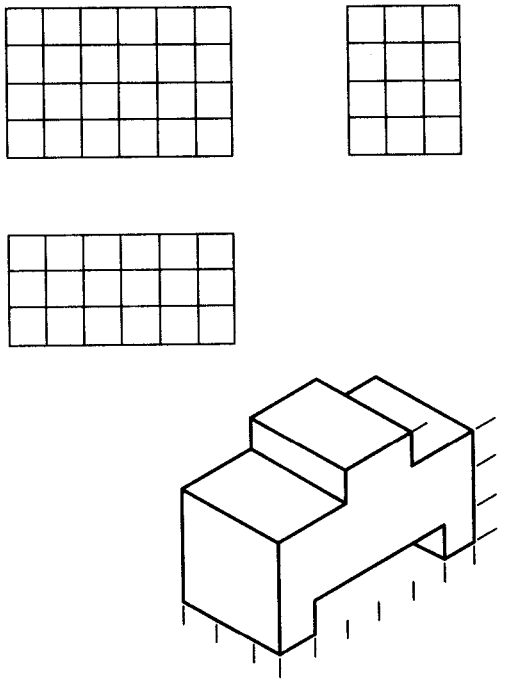


1-7. 作下列平面图形并标注尺寸。 比例：1:1。 Construct and dimension the plane figure below. Scale: 1:1.

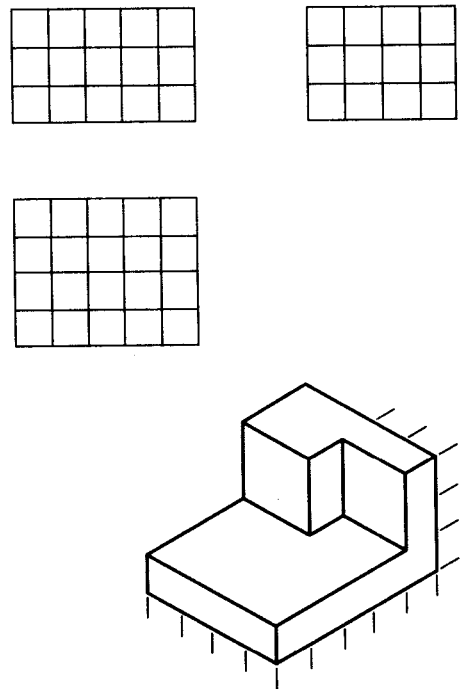


1-8. 徒手画出所给物体的主视图、俯视图和左视图。Sketch freehand the main, top, and left side views of the given objects.

1



2



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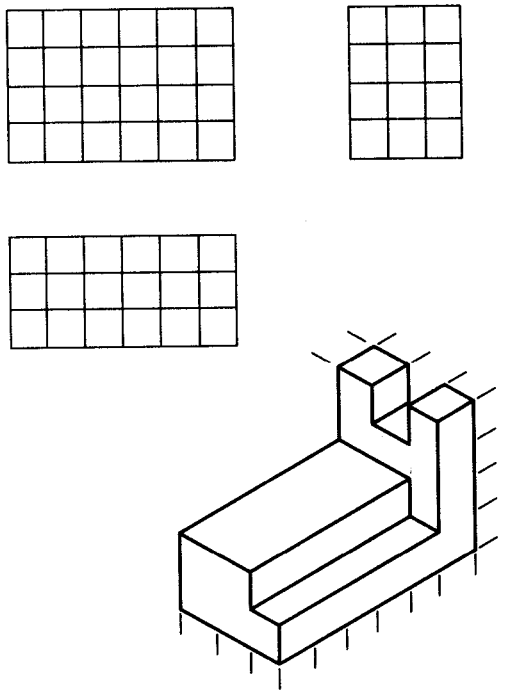
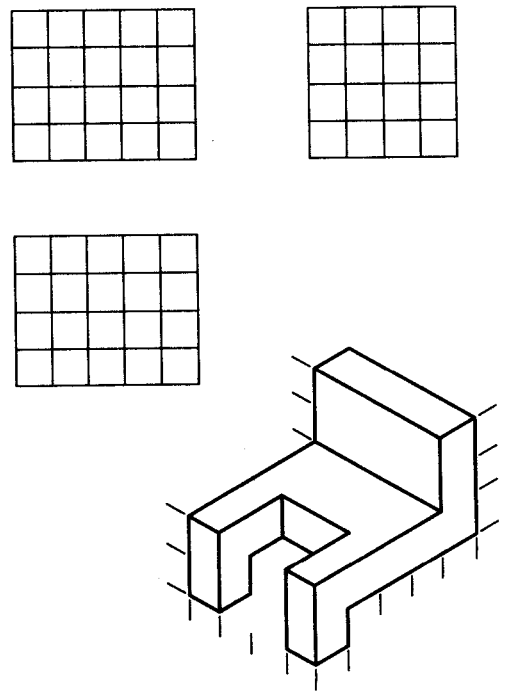


4

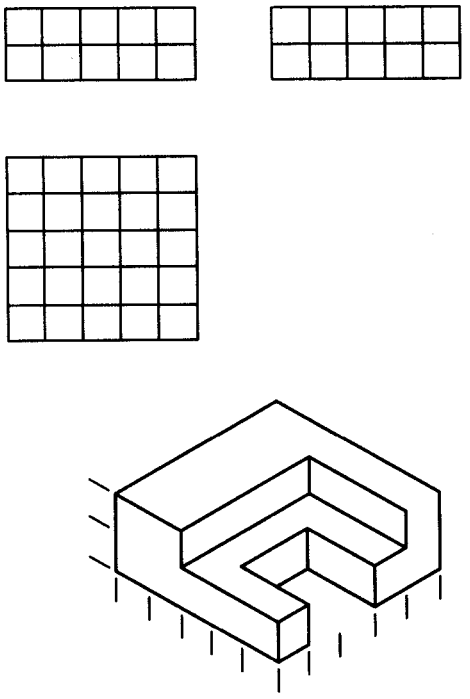


班级 CLASS

姓名 NAME

1-9. 徒手画出所给物体的主视图、俯视图和左视图。Sketch freehand the main, top, and left side views of the given objects.

1



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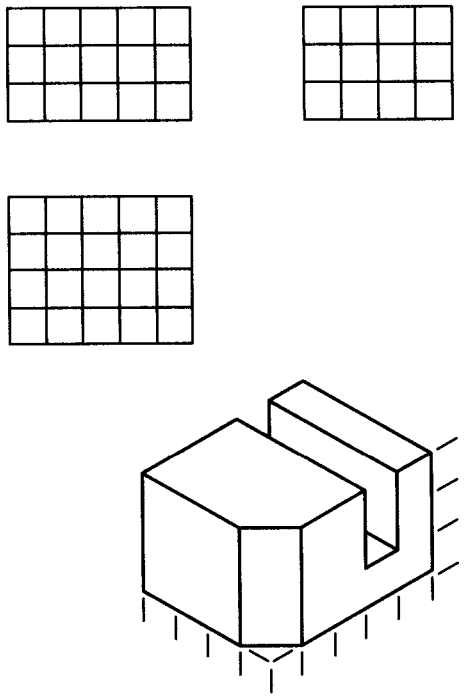

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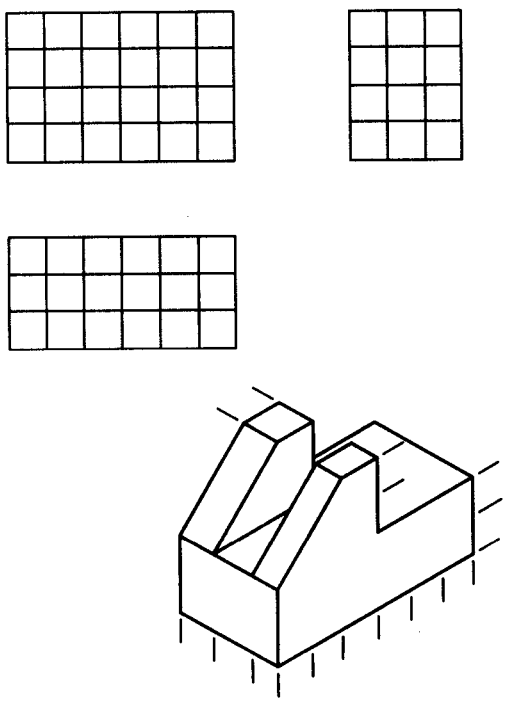

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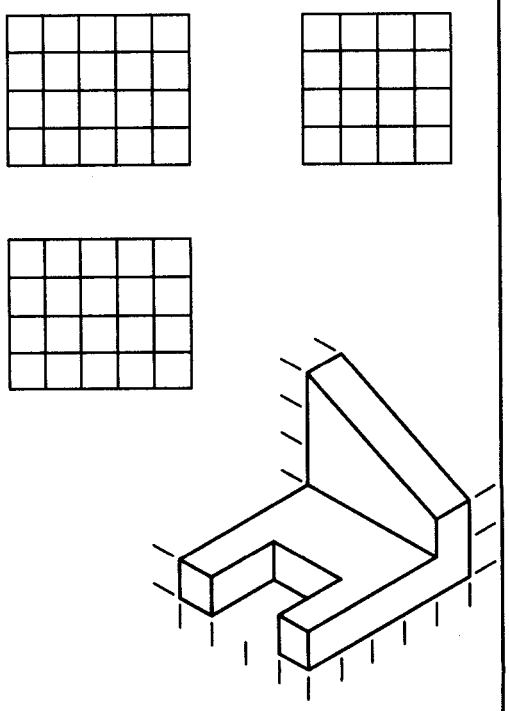
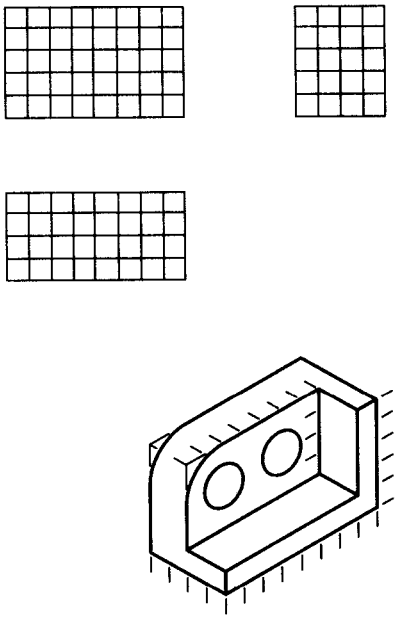


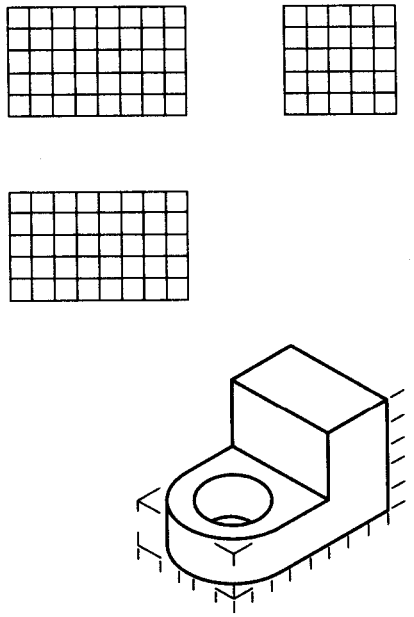
班级 CLASS　　姓名 NAME

1-10. 徒手画出所给物体的主视图、俯视图和左视图。Sketch freehand the main, top, and left side views of the given objects.

1



2



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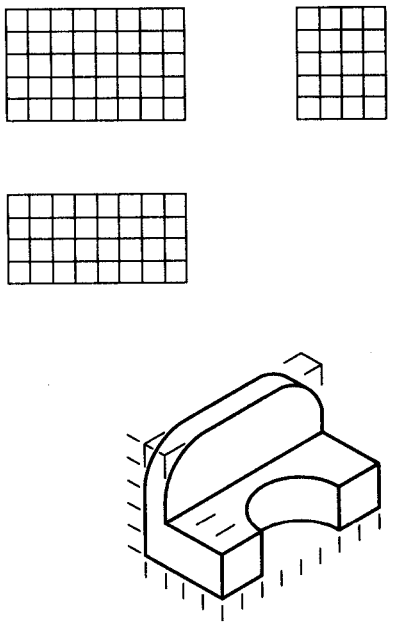

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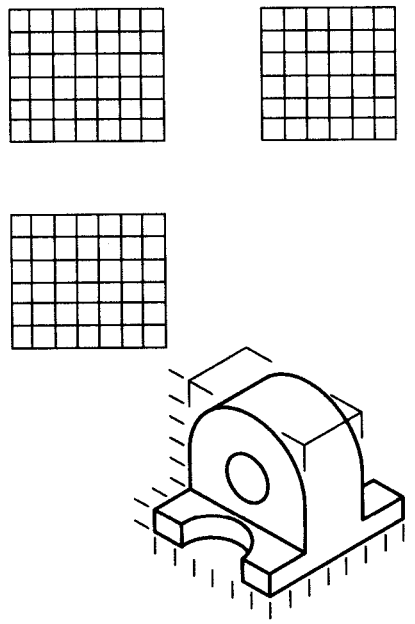
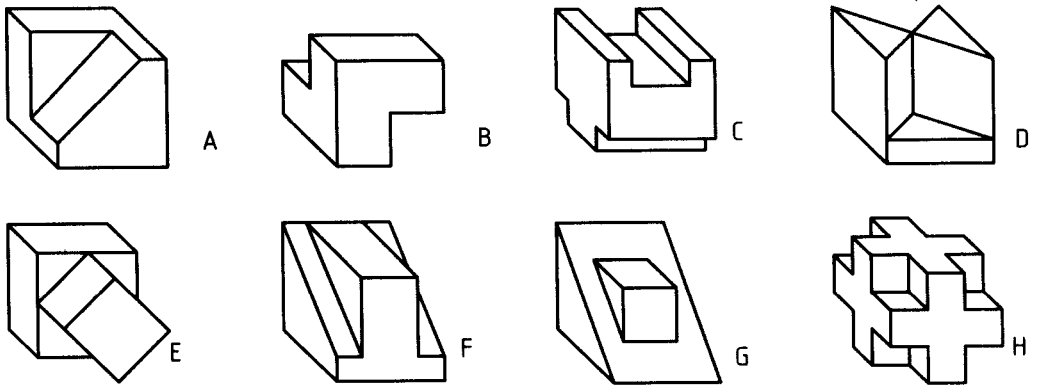
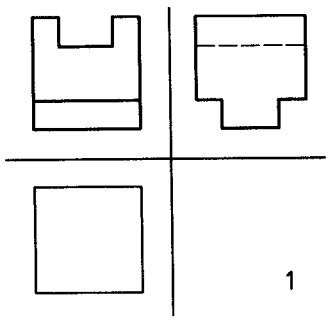
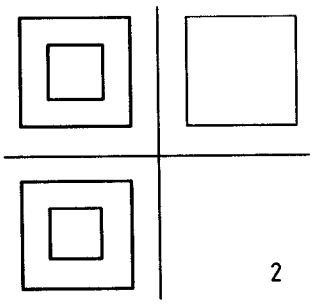


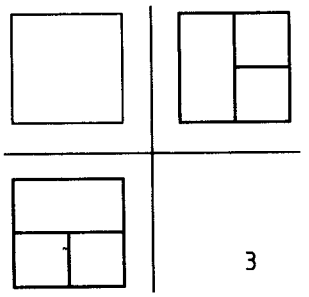
班级 CLASS　　姓名 NAME

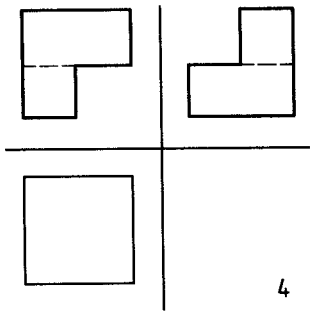
1-11. 找出与立体图完全一致的正投影图，并将数字与字母配对。然后画各物体缺失的视图。 Find the orthographic drawing that best identifies the pictorial drawing by matching the numbers and letters. Then draw the missing view of each object.

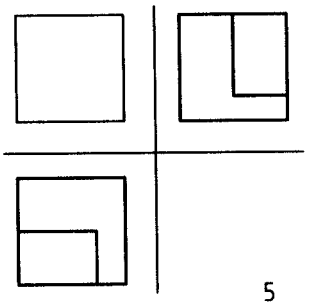


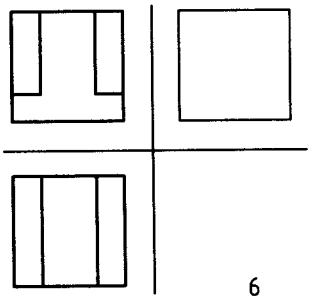


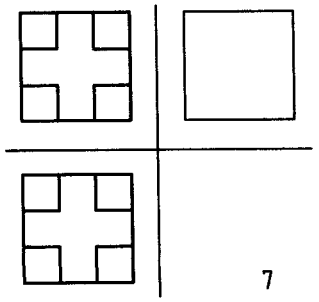


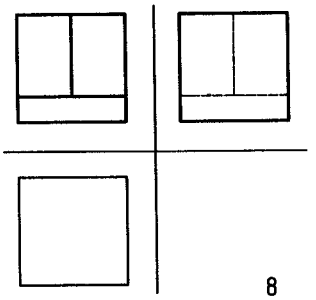








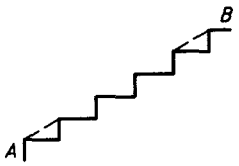




立体图 PICTORIAL	正投影图 ORTHOGRAPHIC
A	
B	
C	
D	
E	
F	
G	
H	

班级 CLASS　　姓名 NAME

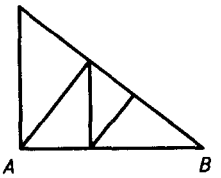
2-1. 将直线A_1B_1分成五等份，然后作一段楼梯使其各台阶与已知各台阶相似。 Divide line A_1B_1 into five equal divisions. Then construct a flight with steps similar to the given ones.



B_1

A_1

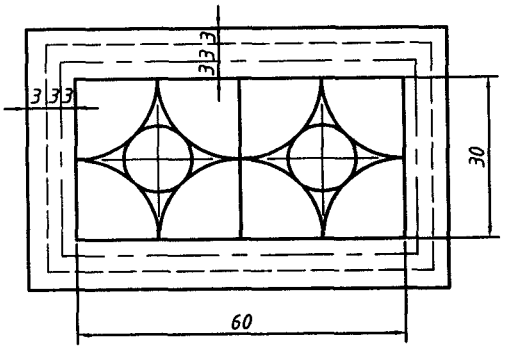
2-2. 在所给底边A_1B_1上作已知桁架的相似形。 Construct a truss similar to the given one on the given base A_1B_1.



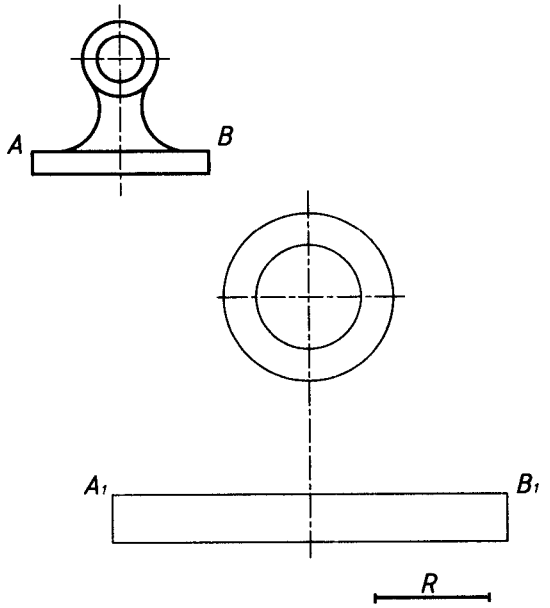
A_1

B_1

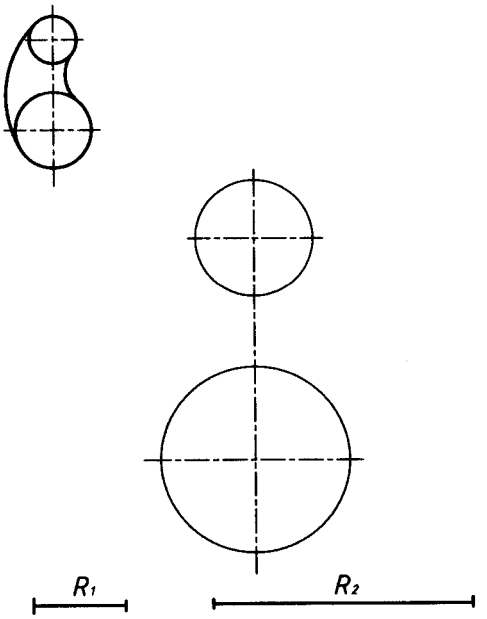
2-3. 抄画下列图案。比例：1∶1。Reproduce the pattern below. Scale: 1∶1.



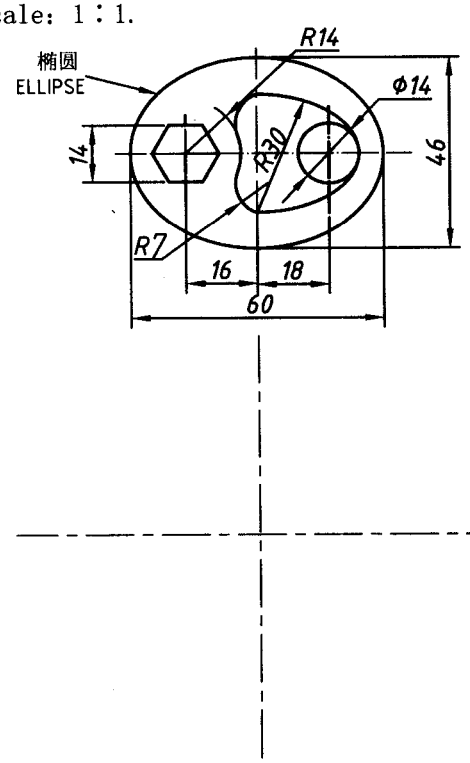
3-1. 用给出的半径作圆弧使与大圆和直线A_1B_1相切。Using the given radius, construct arcs that are tangent to the large circle and the line A_1B_1.



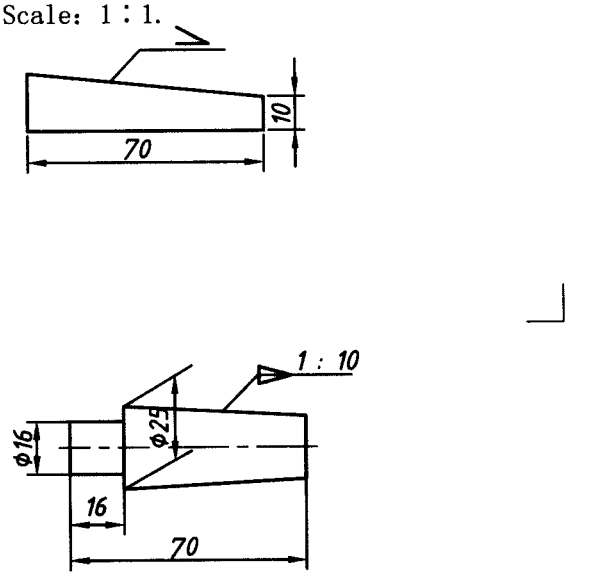
3-2. 用给出的两个半径，作两圆弧与两个圆相切。Using the given radii, construct arcs that are tangent to two circles.



3-3. 画已知的平面图形。略去尺寸。比例：1∶1。Draw the given plane figure. Omit dimensions. Scale: 1∶1.



3-4. 画已知的图形。略去尺寸。比例：1∶1。Draw the given figure. Omit dimensions. Scale: 1∶1.



班级 CLASS　　姓名 NAME