工程制图与CAD-7

组合体1

组合体的组成方式

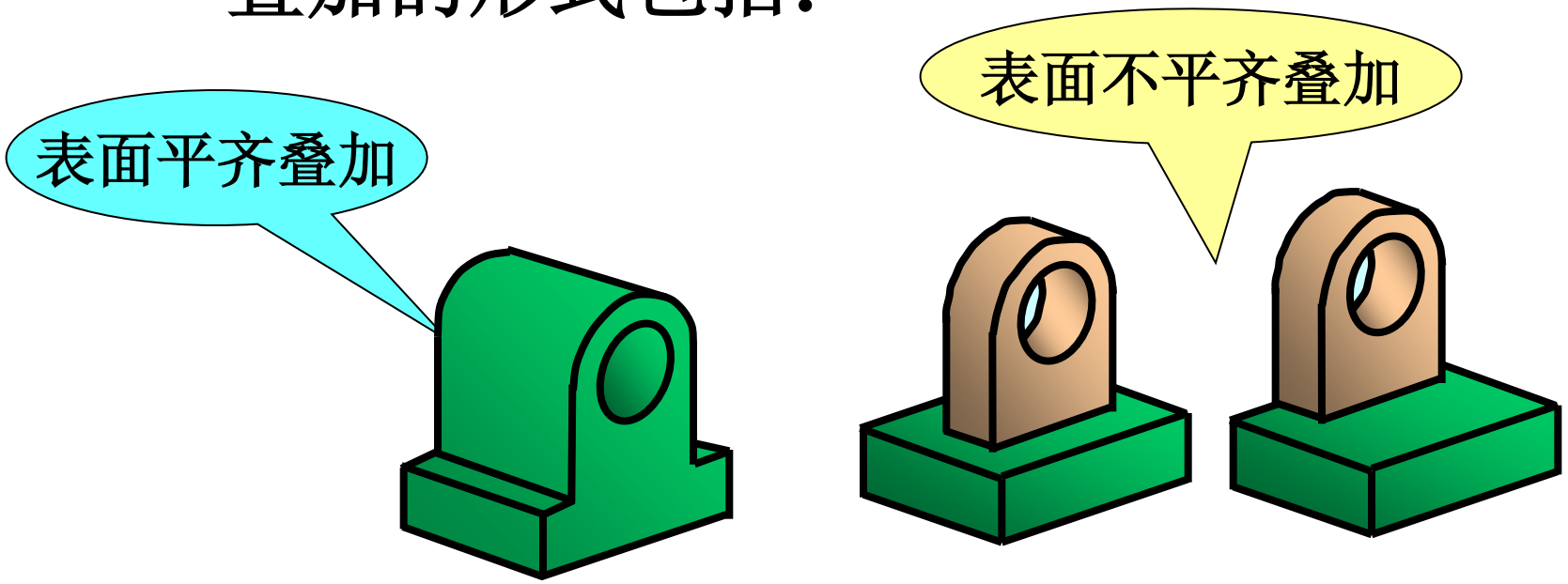
任何空间形体，不论形状是简单，还是复杂，都可以把它们看成是由若干基本体在给定的空间位置上按一定操作规则组合形成的。这种认识空间形体的方法称为形体分析法，而将除基本体以外的空间形体统称为组合体。

组合体——由平面体和曲面体组成的物体

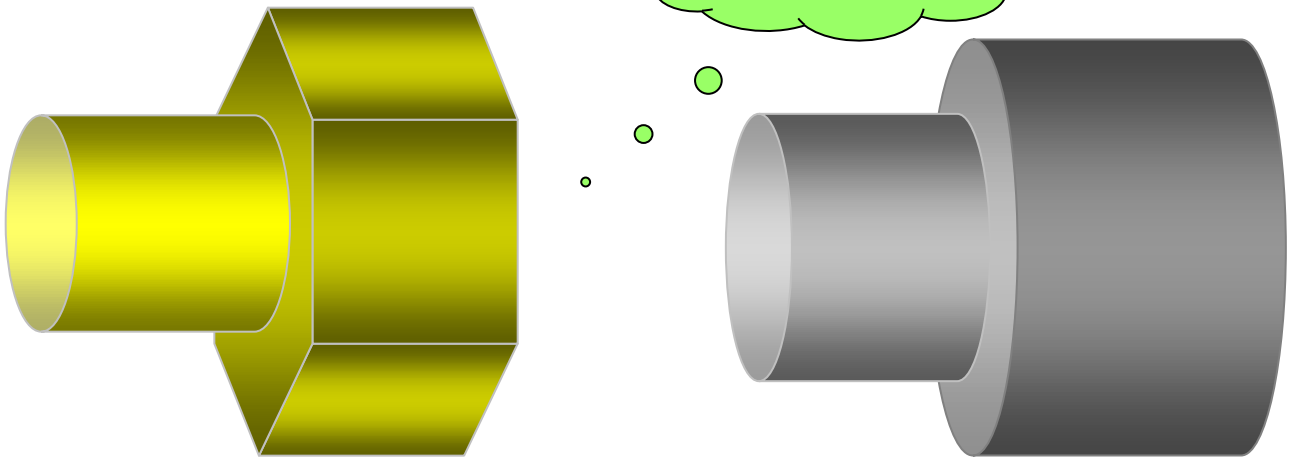
一、组合体的组成方式

1. 叠加

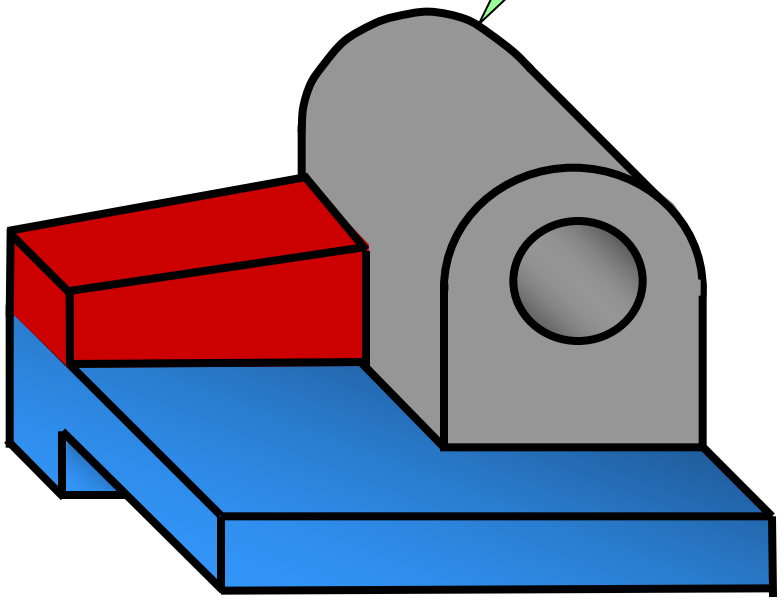
叠加的形式包括：



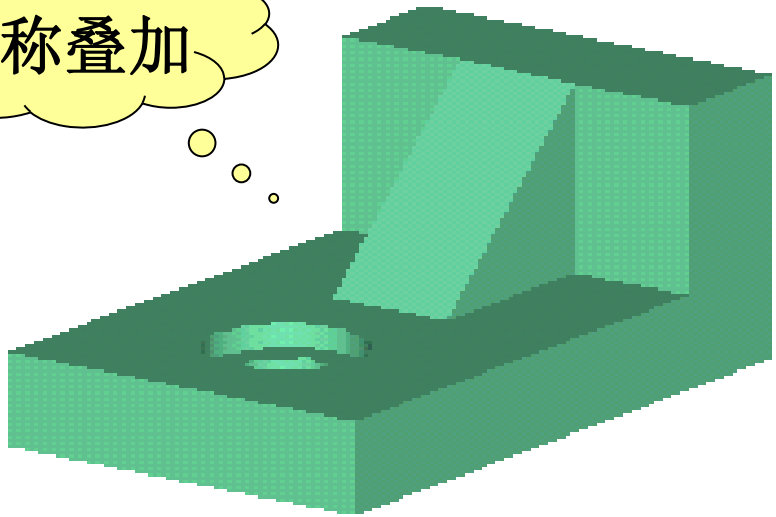
同轴叠加



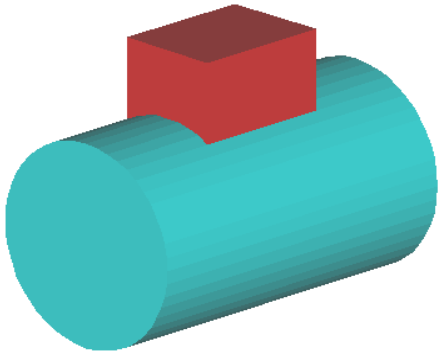
非对称叠加

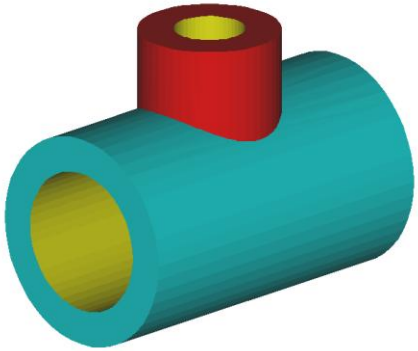


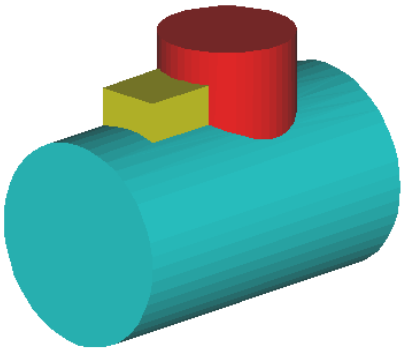
对称叠加



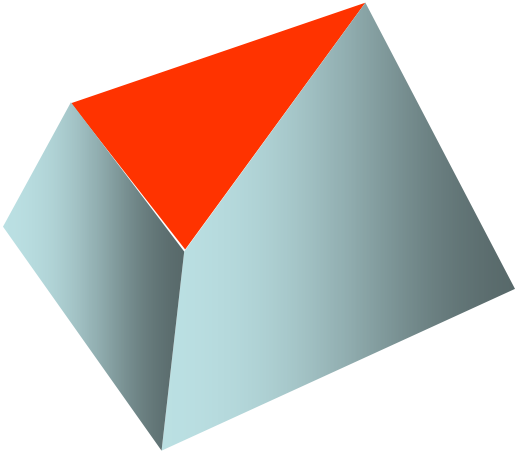
2. 相交

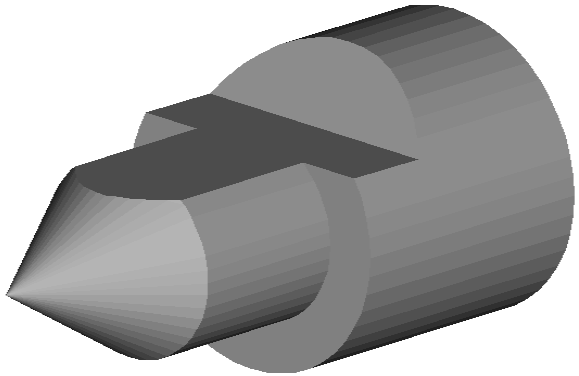


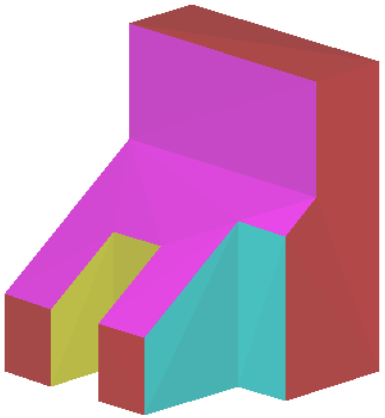




3. 截切

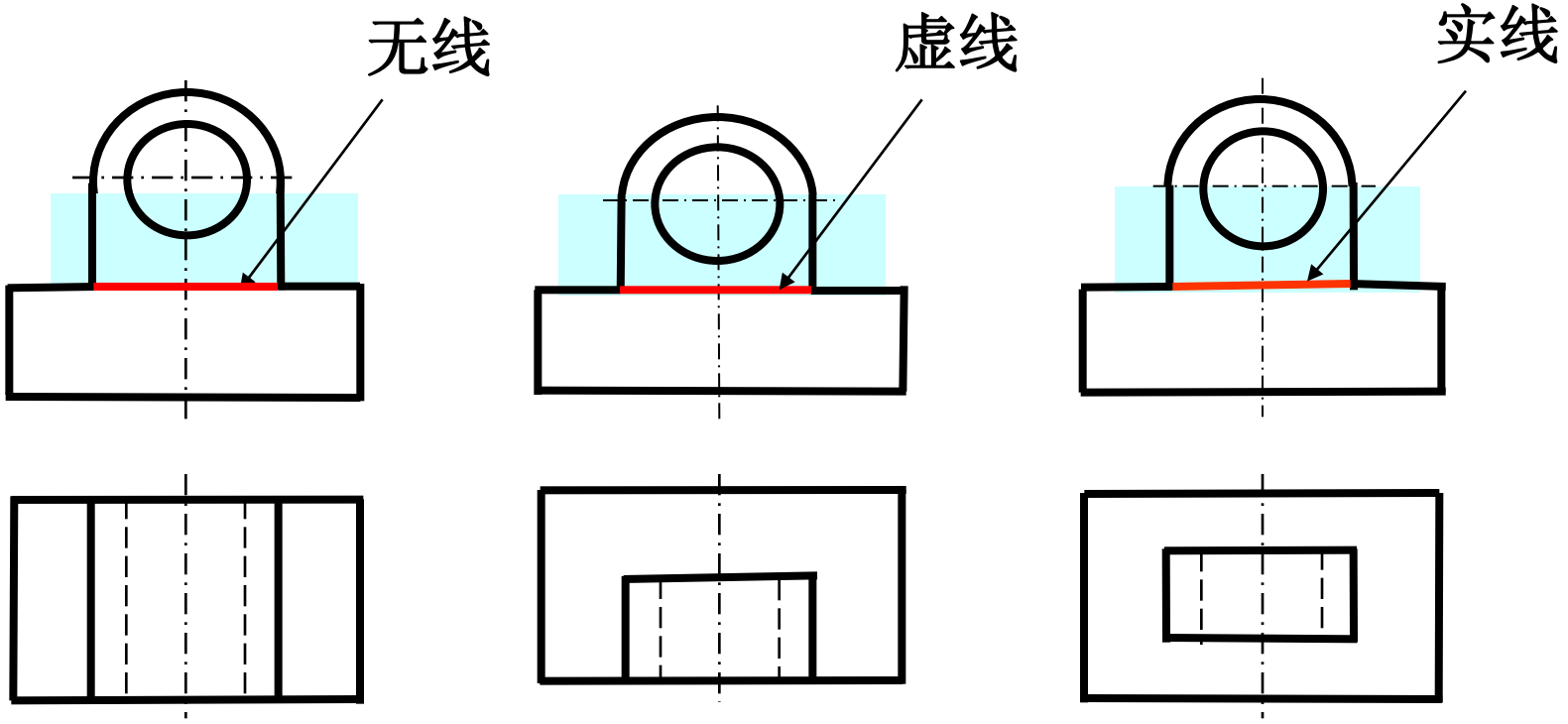






二、形体之间的表面过渡关系

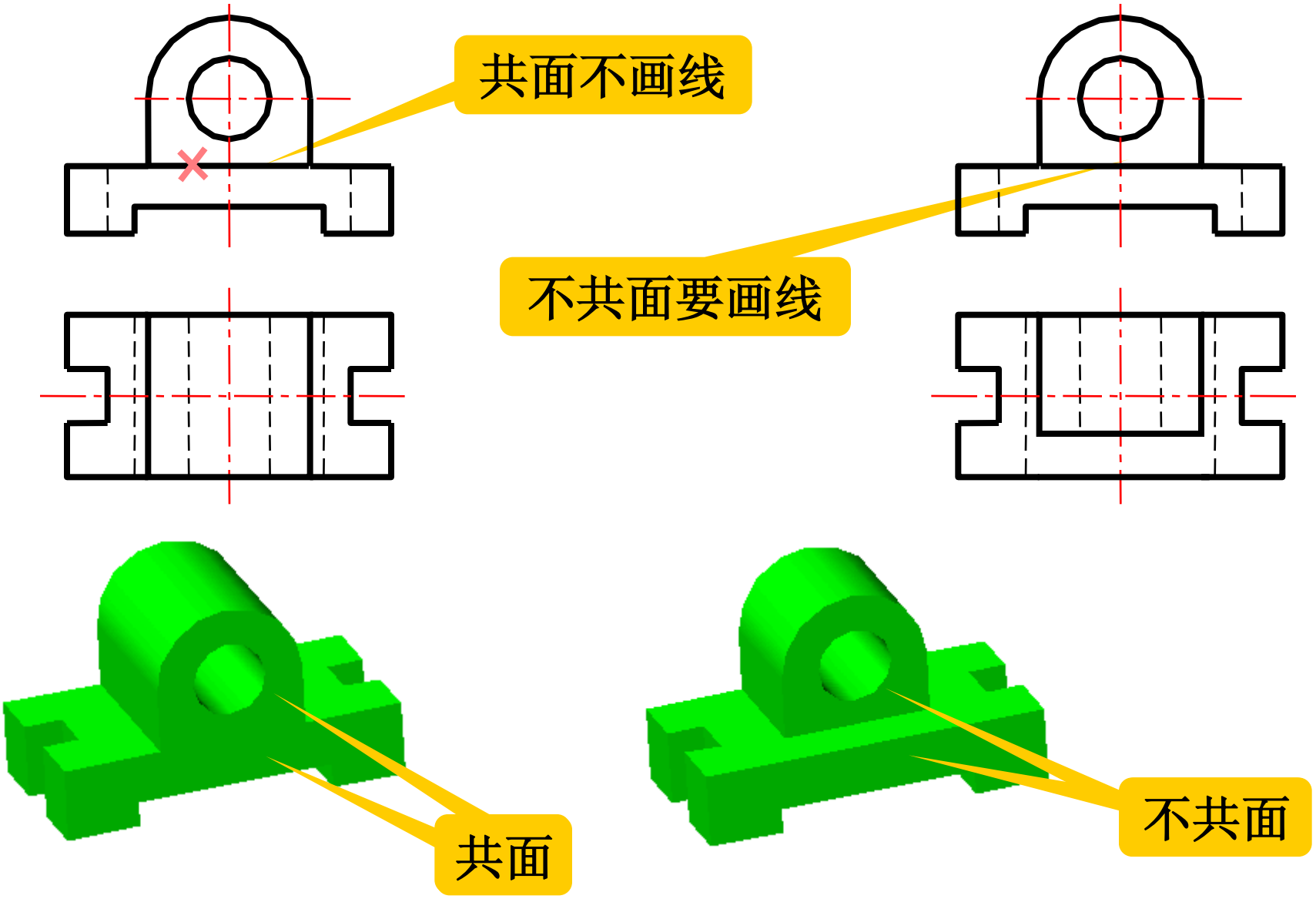
1. 两形体叠加时的表面过渡关系



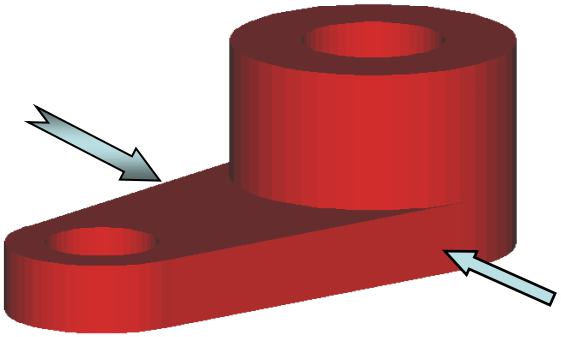
(a) 平齐

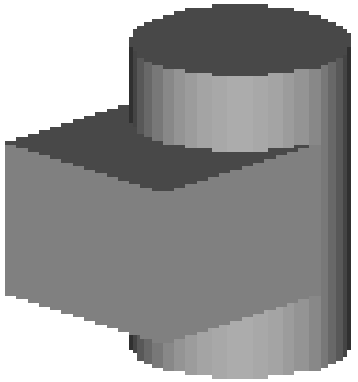
(b) 前面平齐
后面不平齐

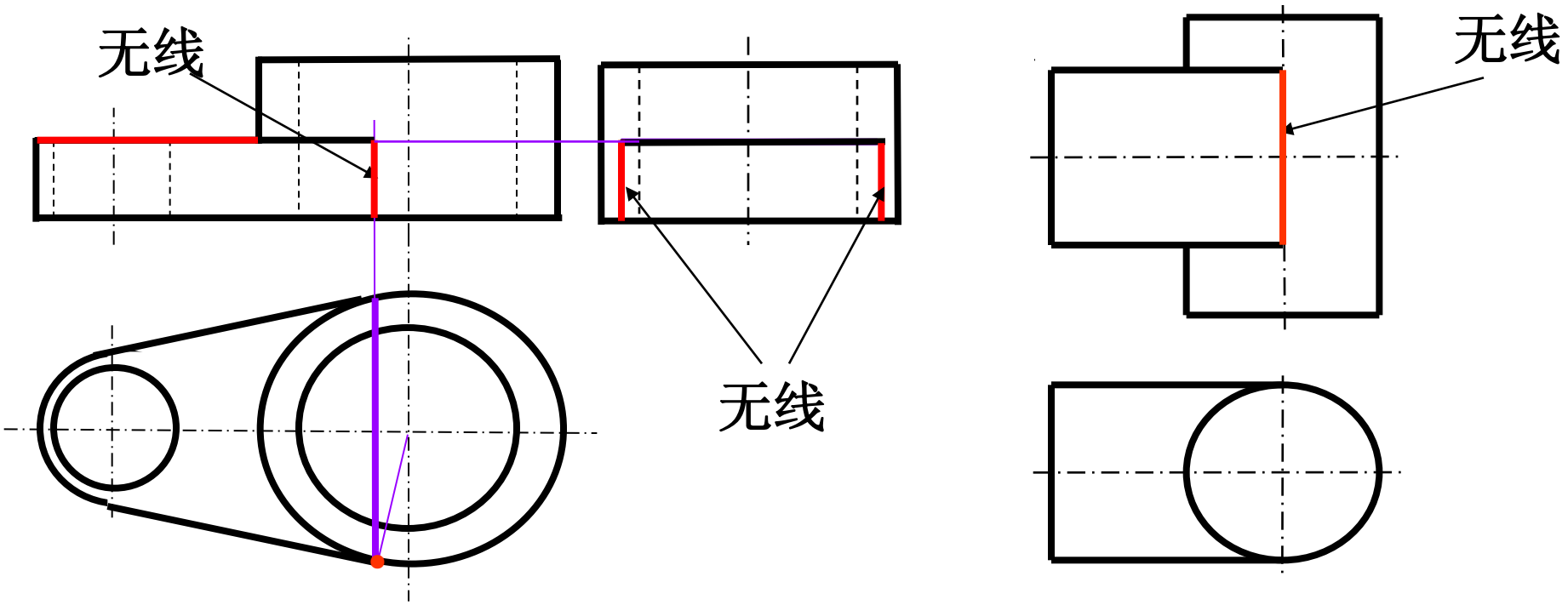
(c) 不平齐

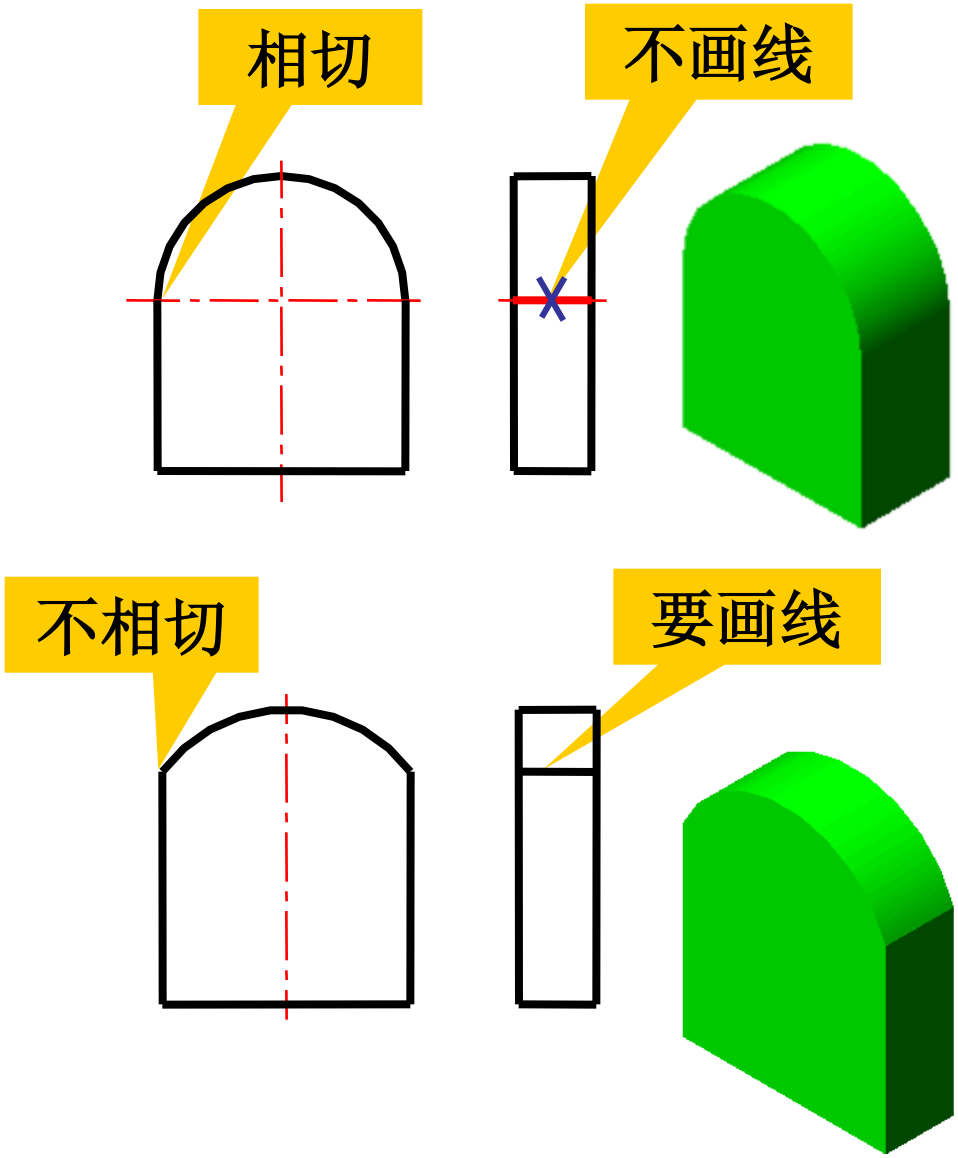

共面不画线
不共面要画线
共面
不共面

2. 两形体表面相切时，相切处无线。

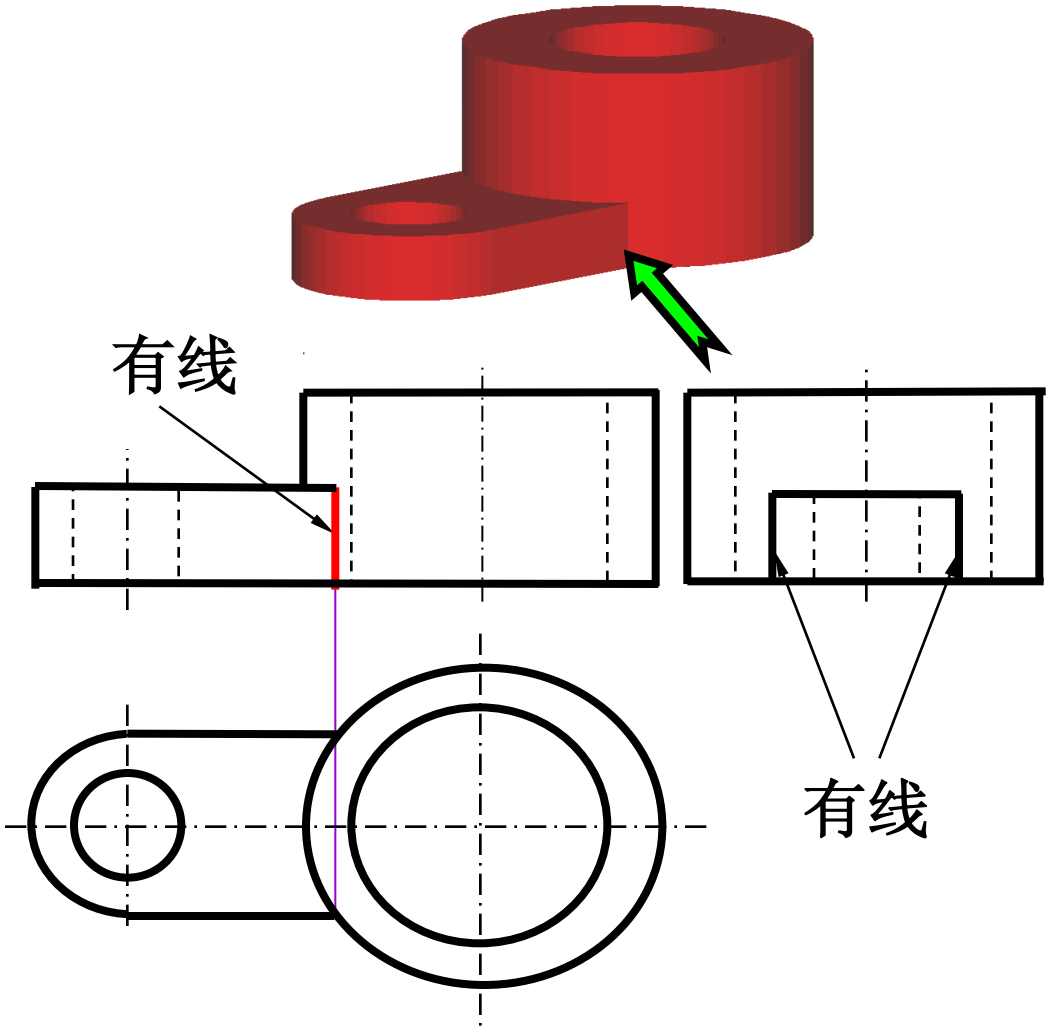






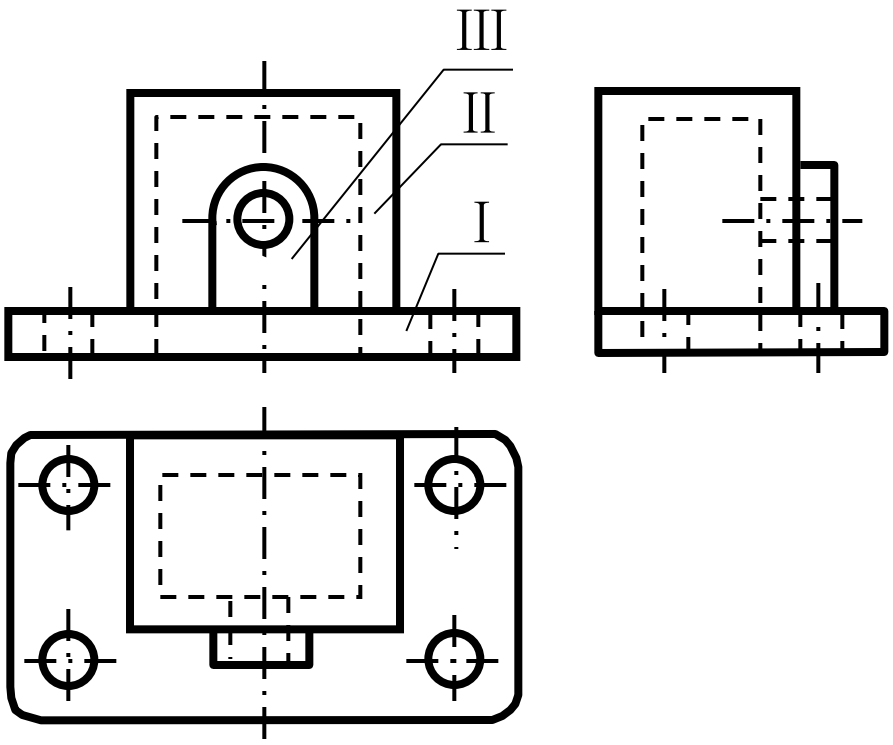

相切
不画线
不相切
要画线

3. 两形体相交时，在相交处应画出交线。

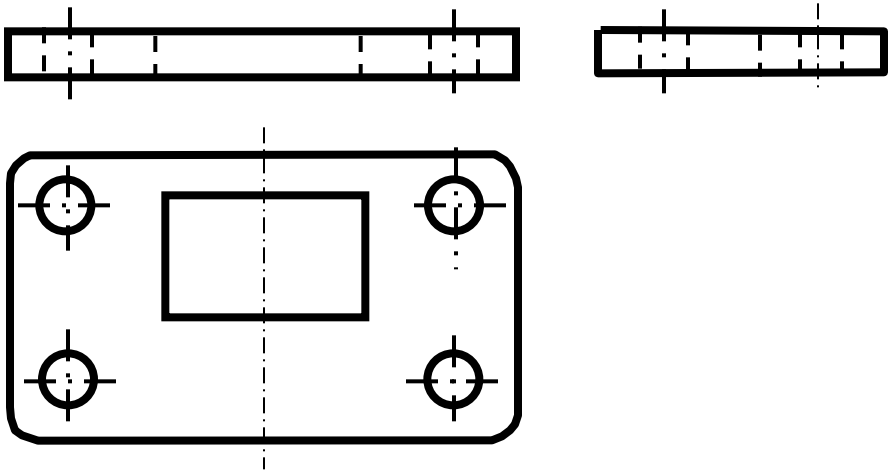


三、组合体的形体分析法

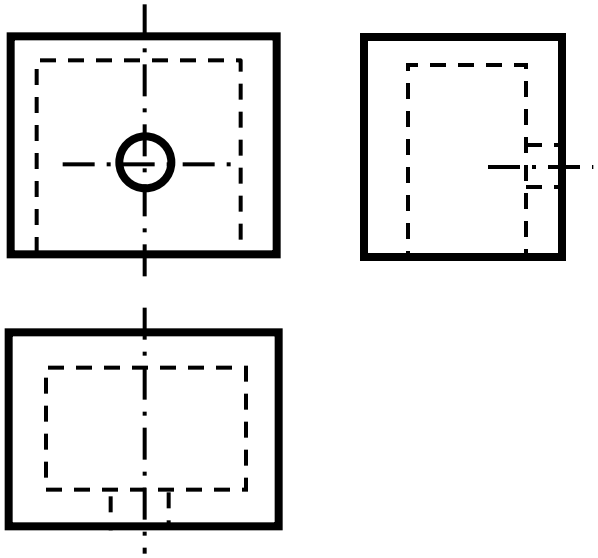
形体分析法——假想把组合体分解为若干个简单的基本形体，并分析它们之间的相对位置及组合形式。



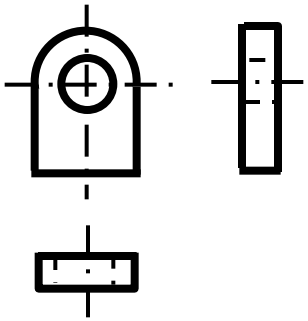
第一部分

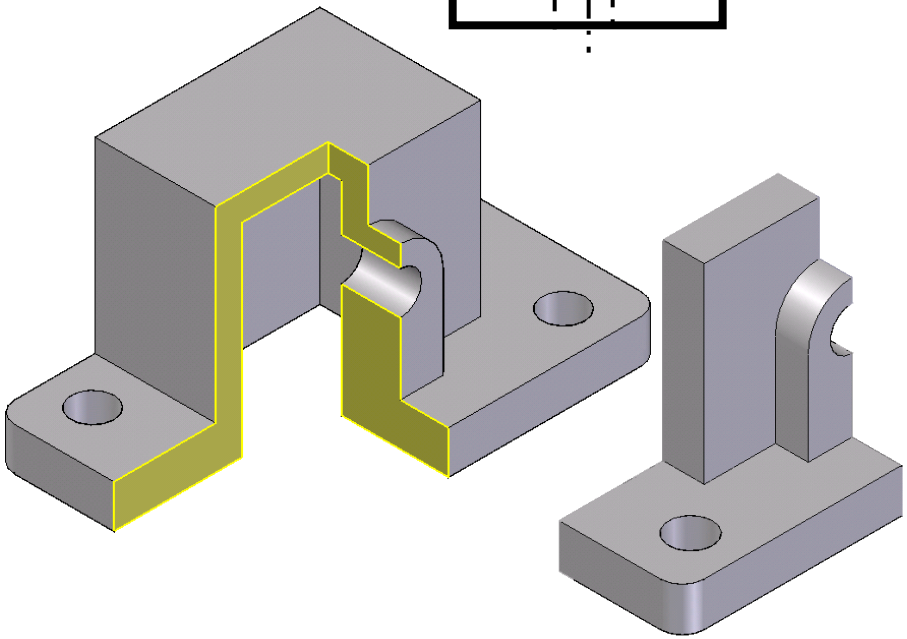


第二部分



第三部分





看图时要注意的几个问题

1. 要掌握常见组合体的投影特点

2. 要将几个视图联系起来看

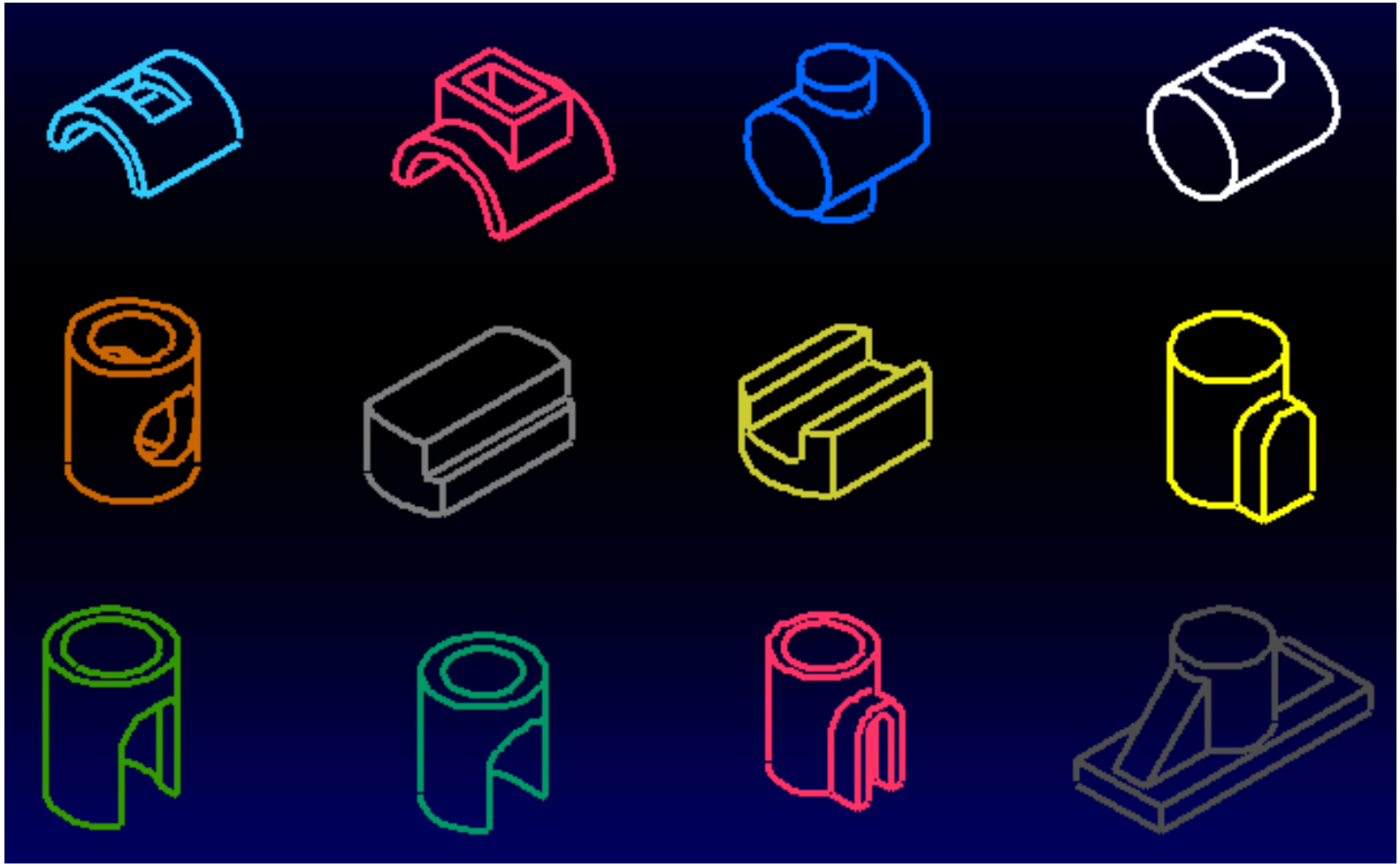
3. 要找出特征视图

4. 要弄清视图中“图线”的含义

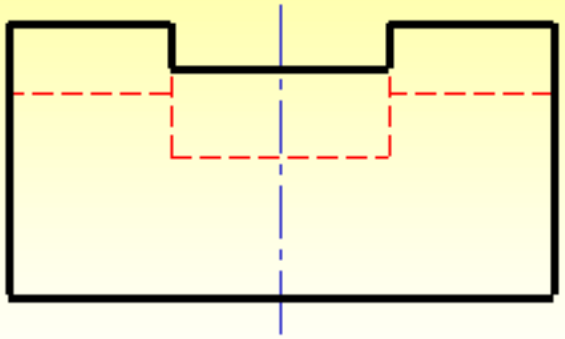
5. 要弄清视图中“线框”的含义

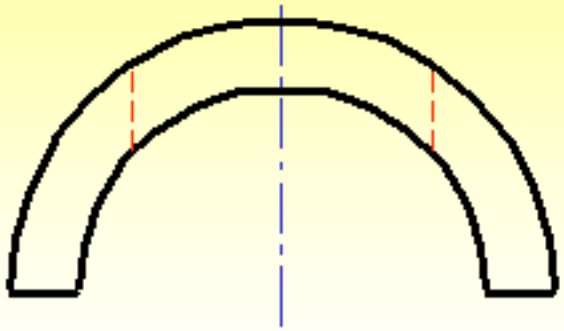
6. 要判断出相邻表面间的相对位置

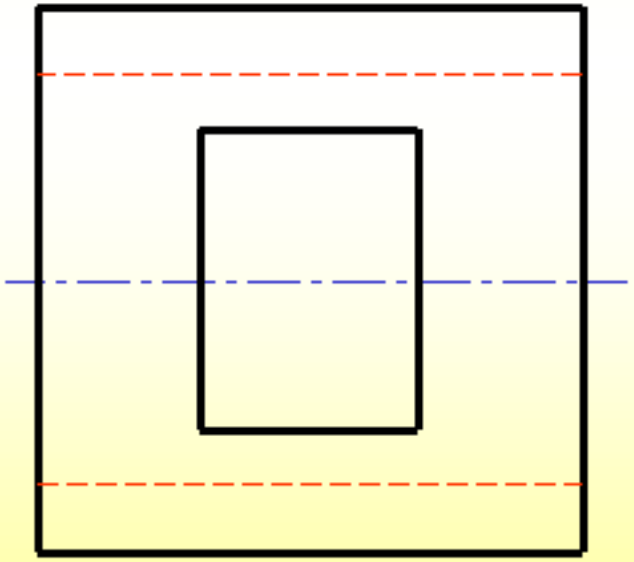
1. 常见组合体的简单结构

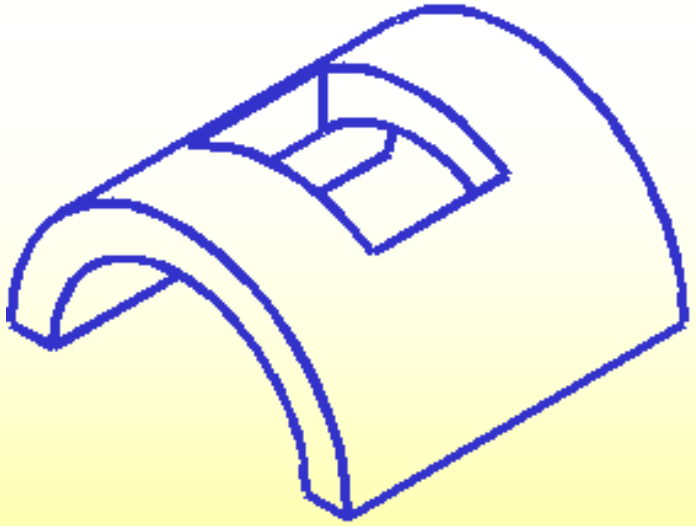


简单结构一

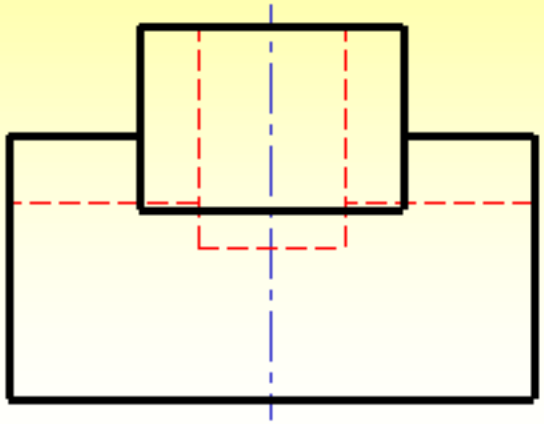


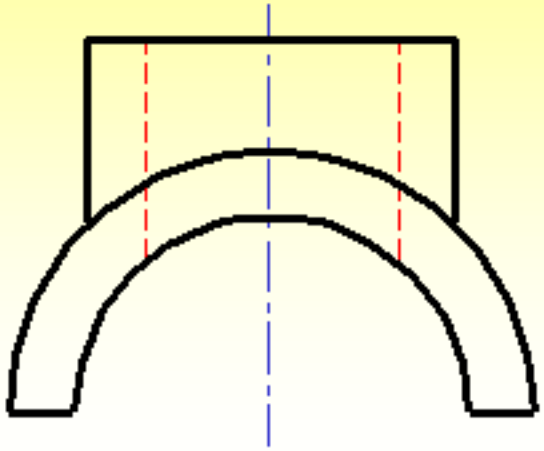


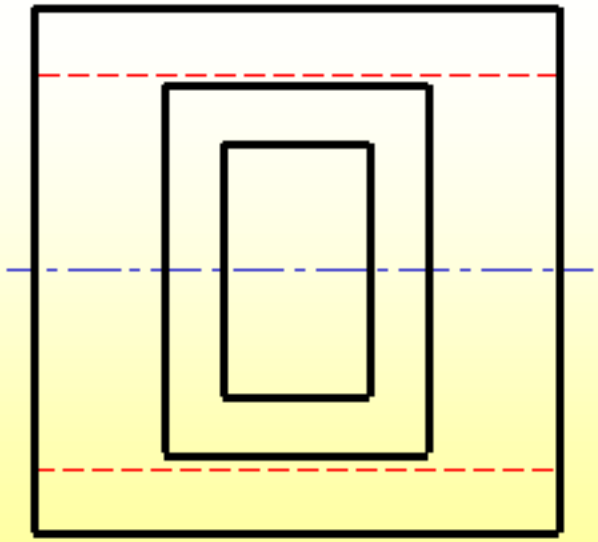


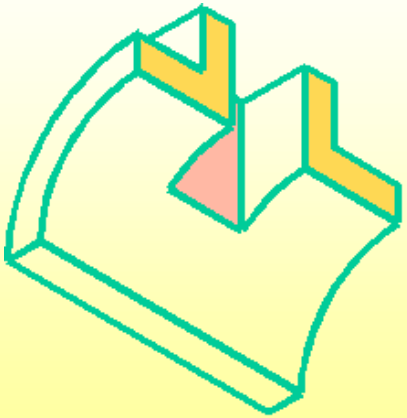


简单结构二

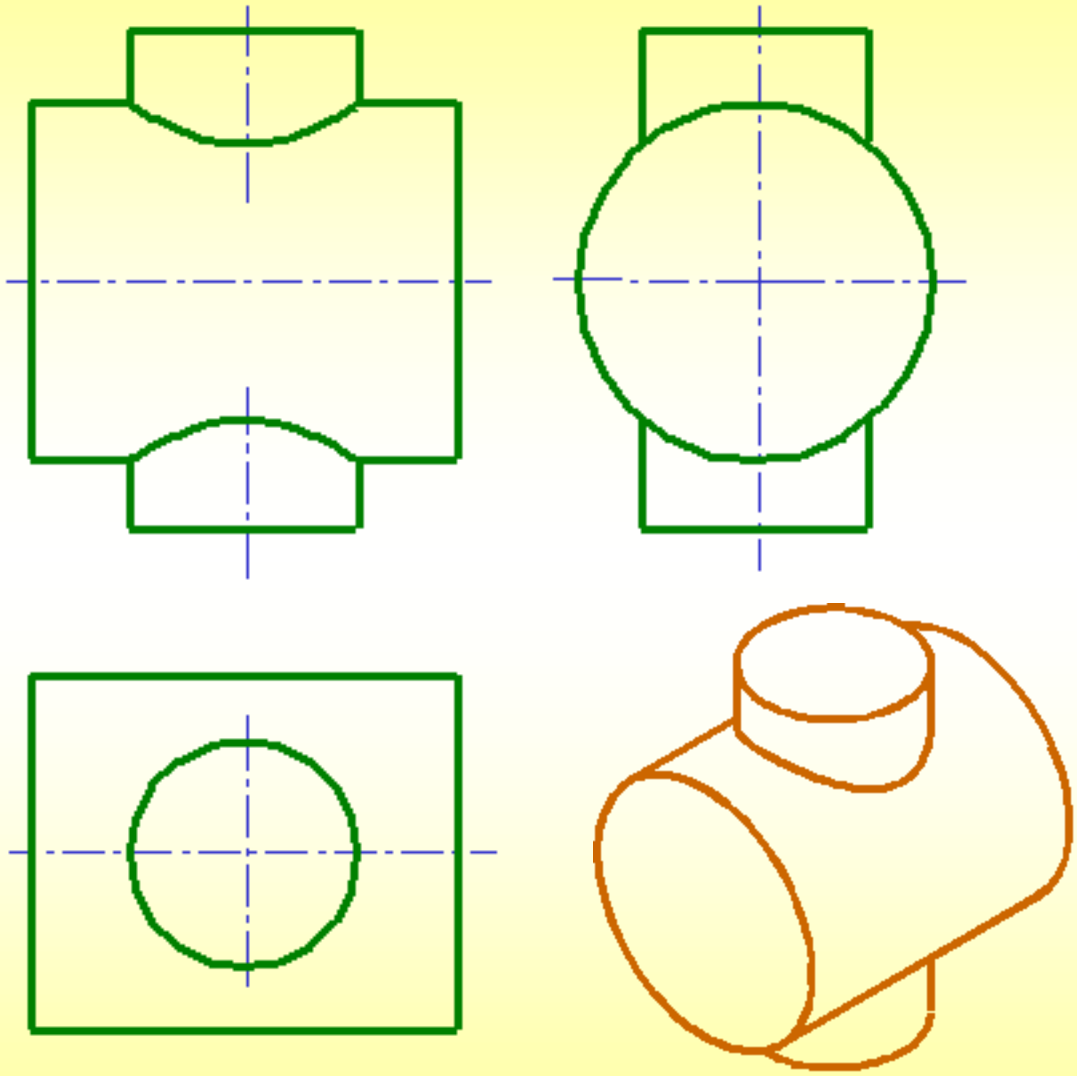




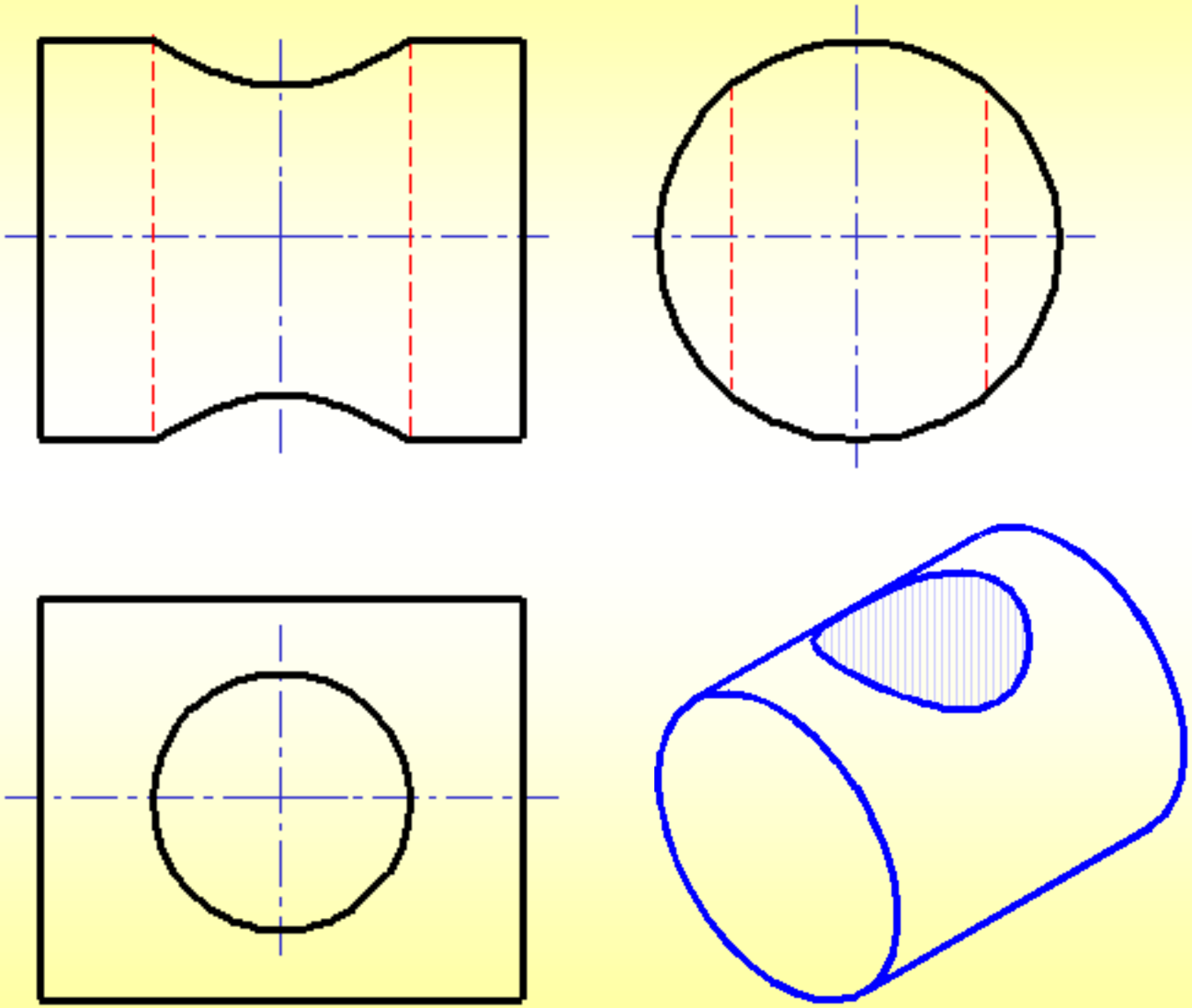




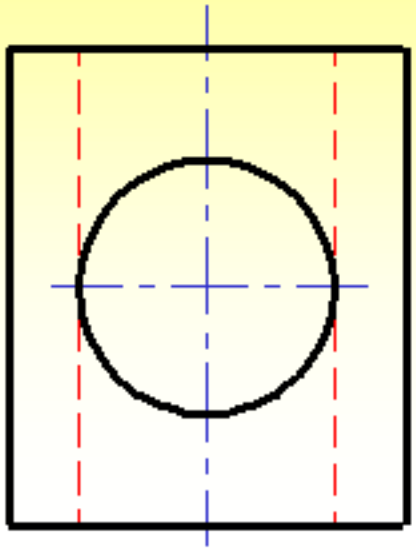
简单结构三

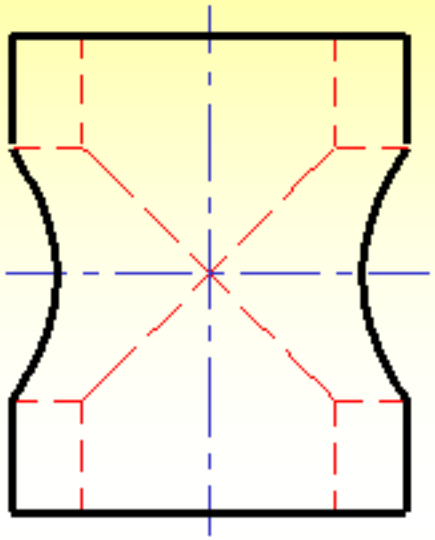


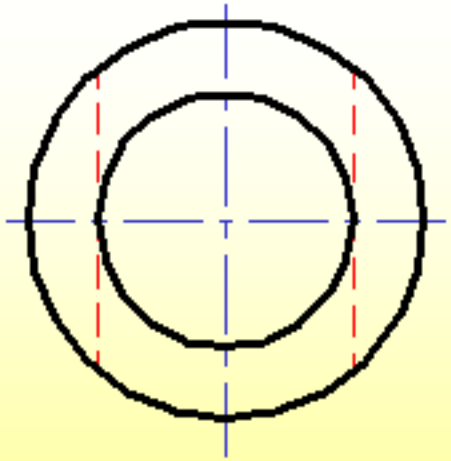
简单结构四

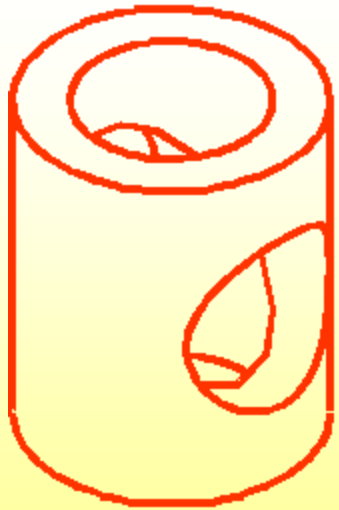


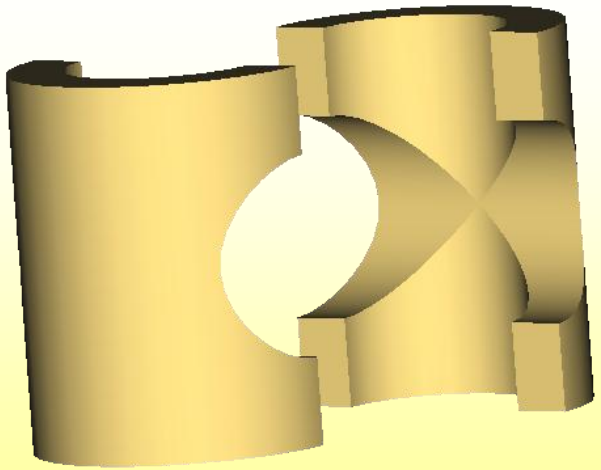
简单结构五



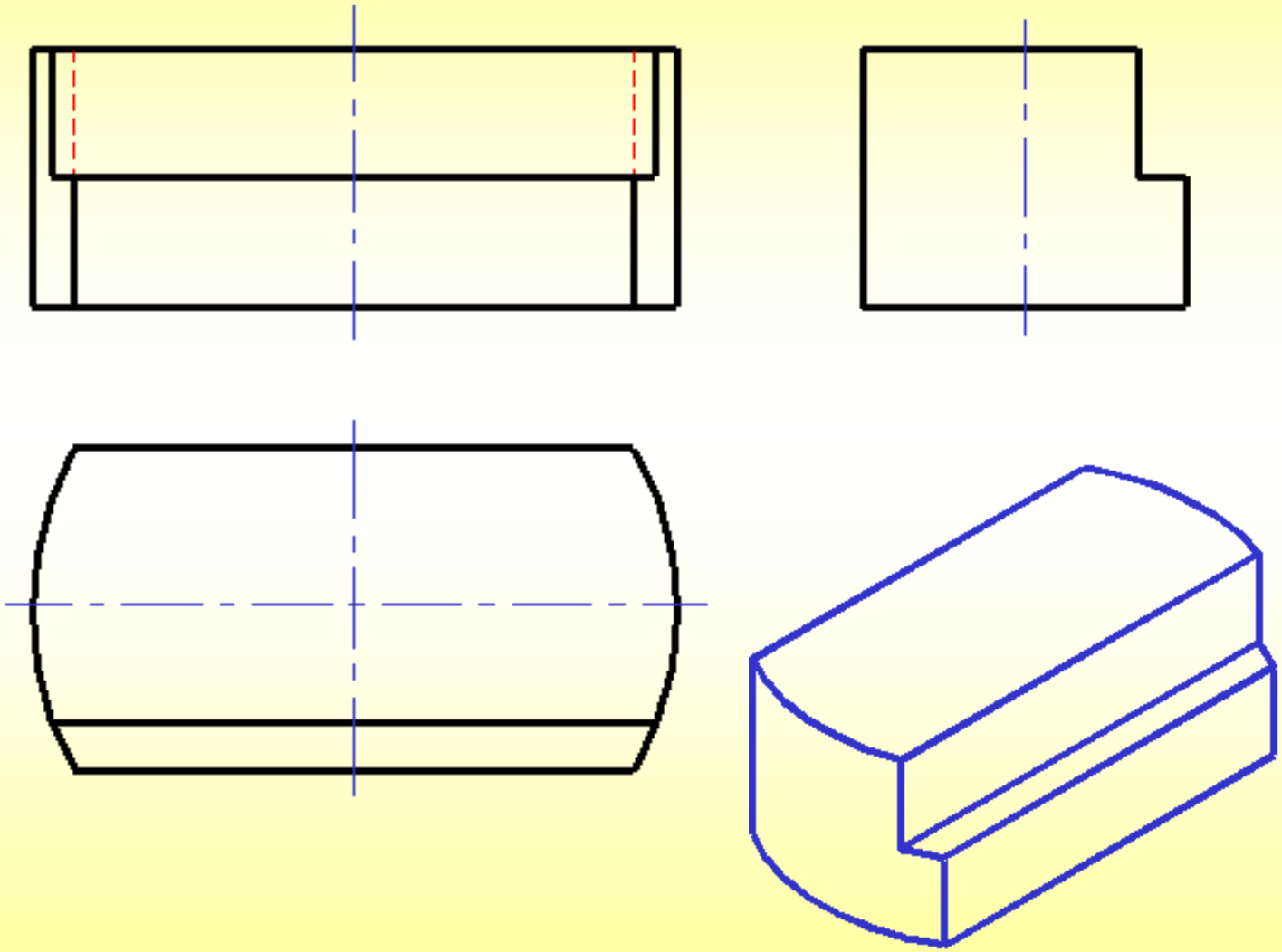




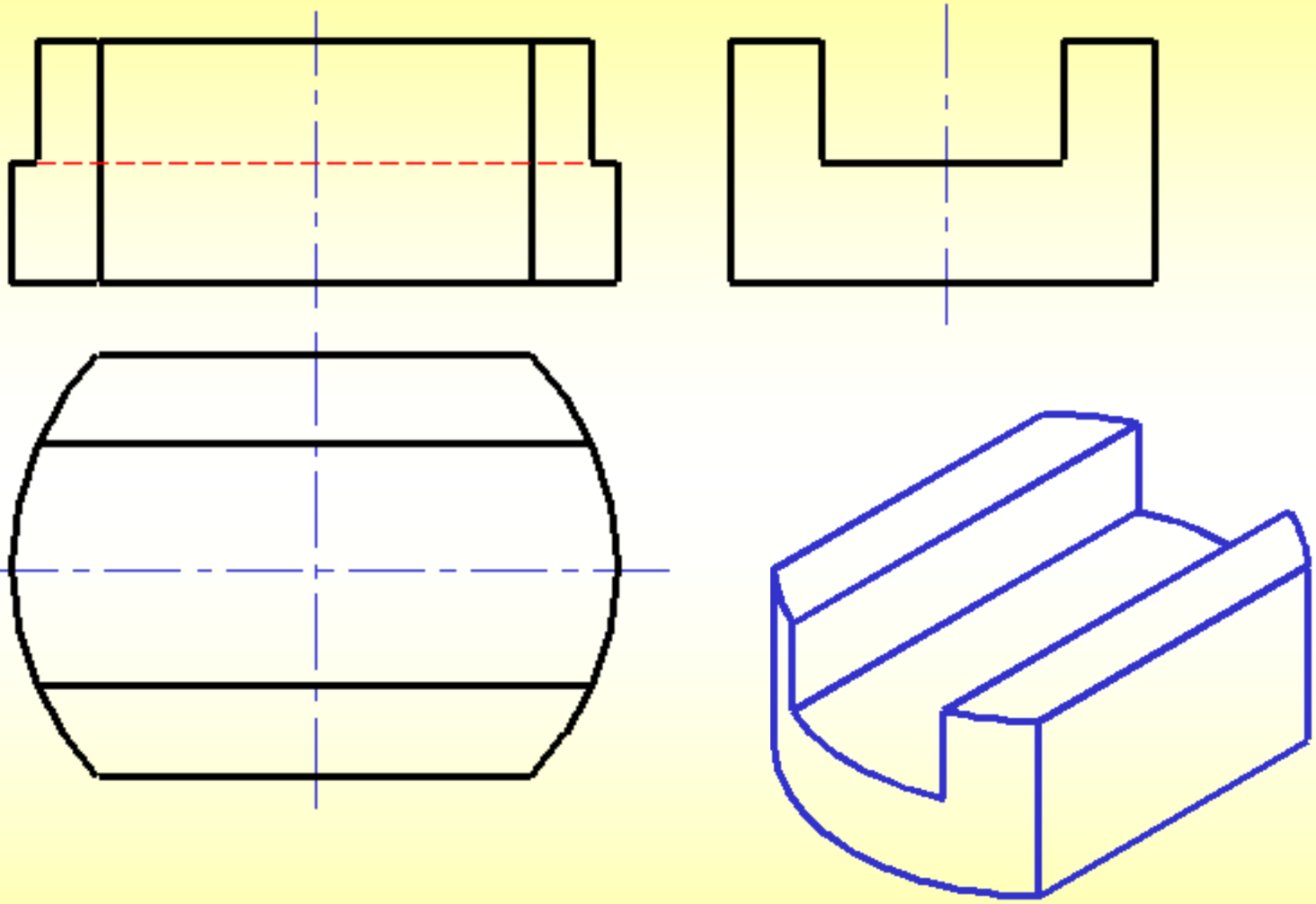




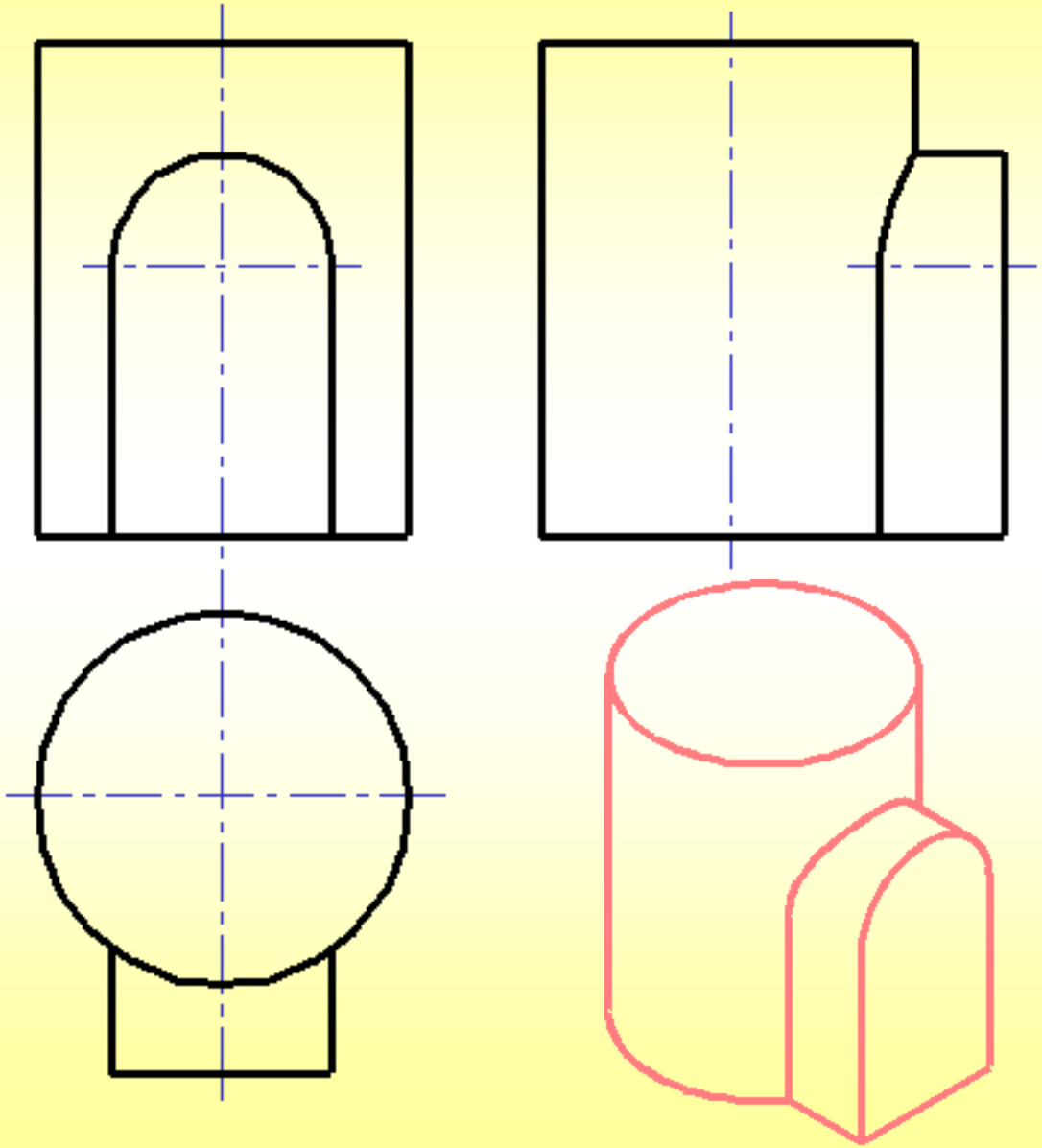
简单结构六



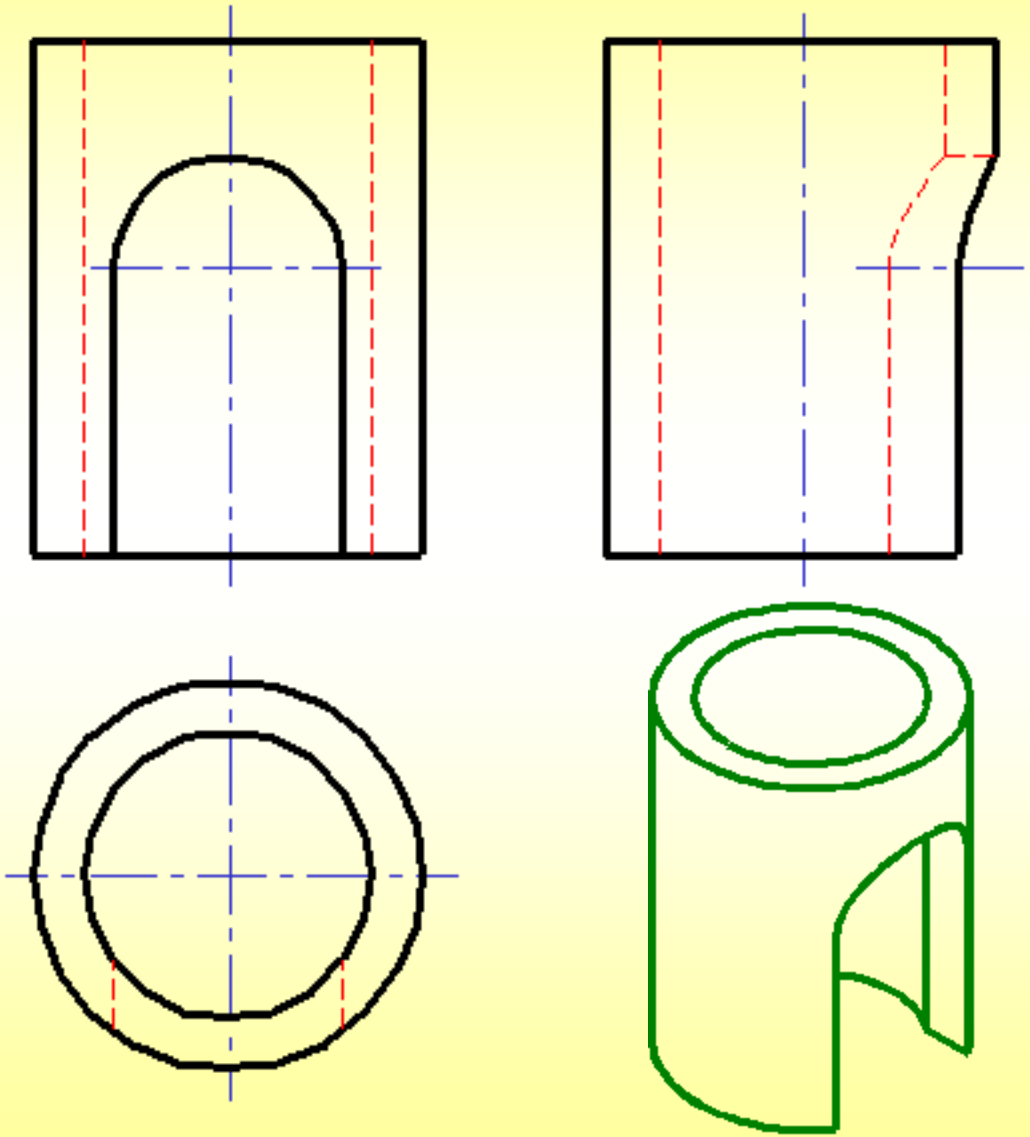
简单结构七



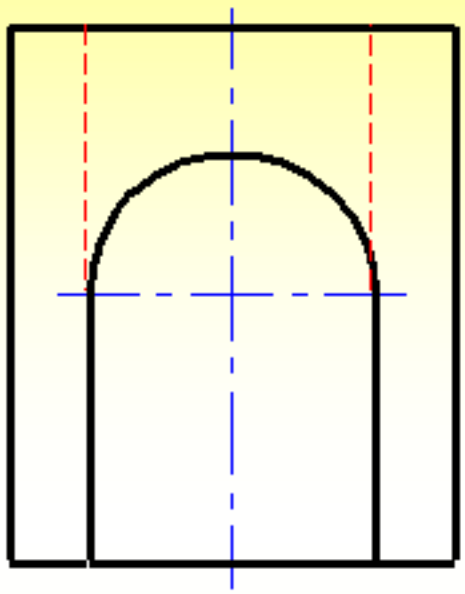
简单结构八

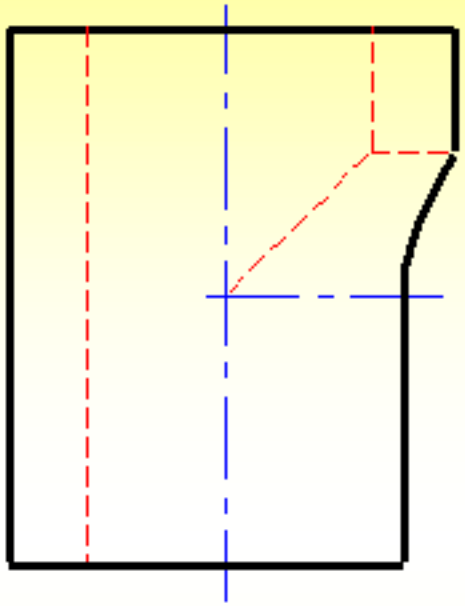


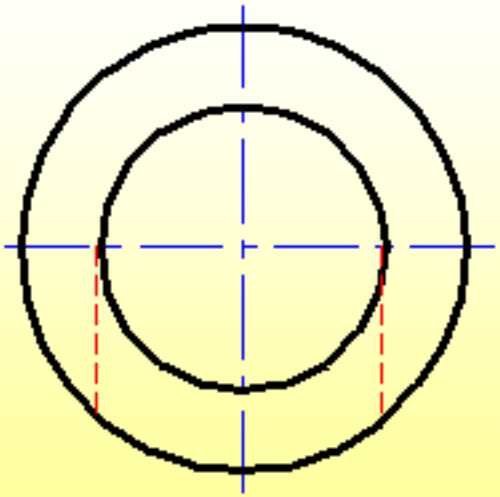
简单结构九

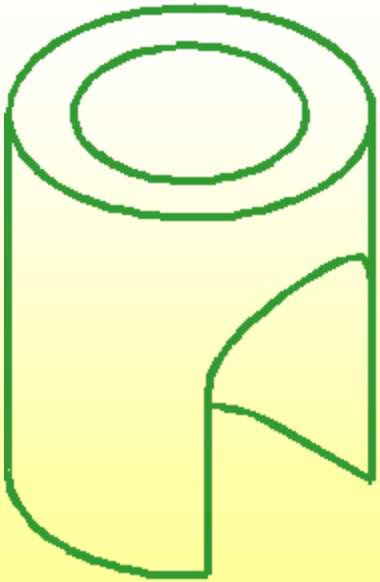


简单结构十

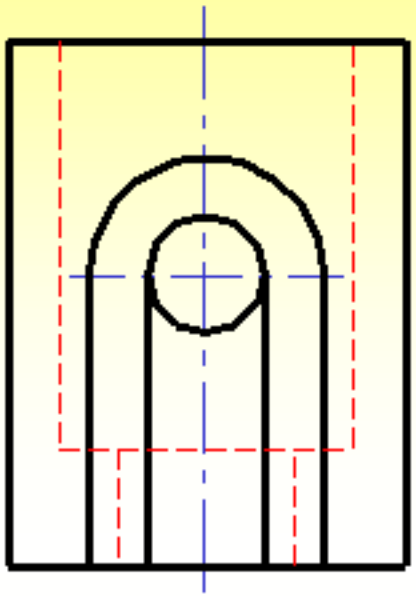


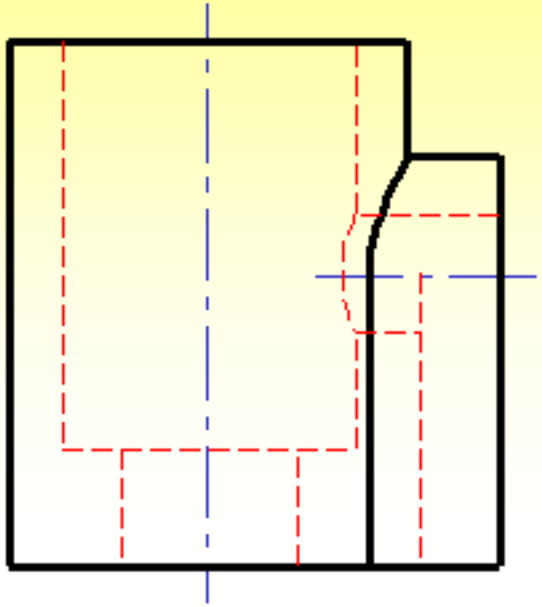


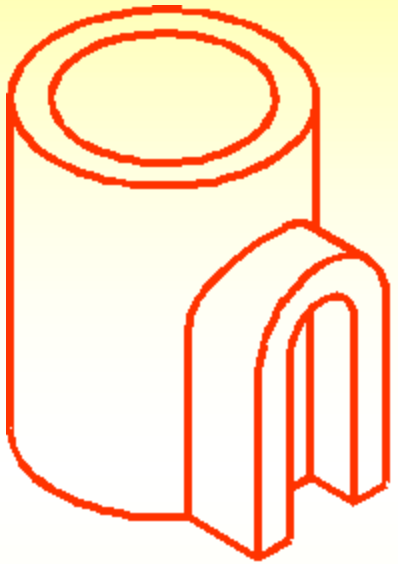


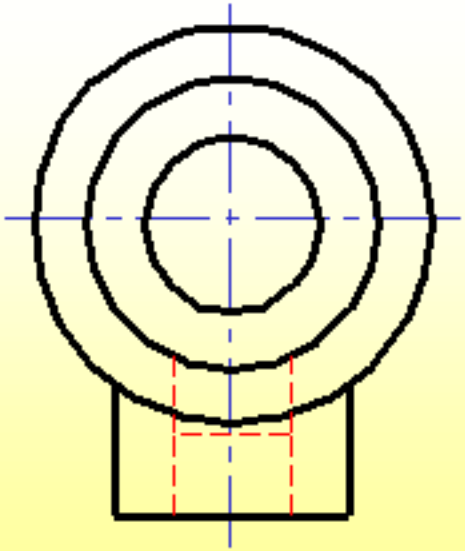


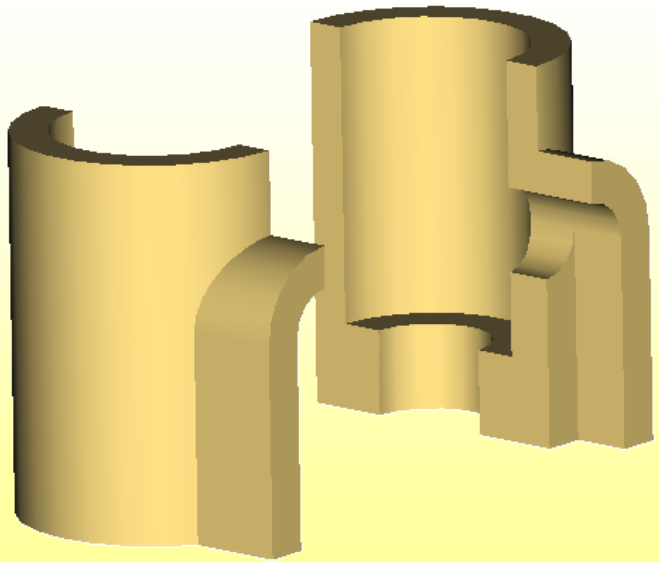
简单结构十一



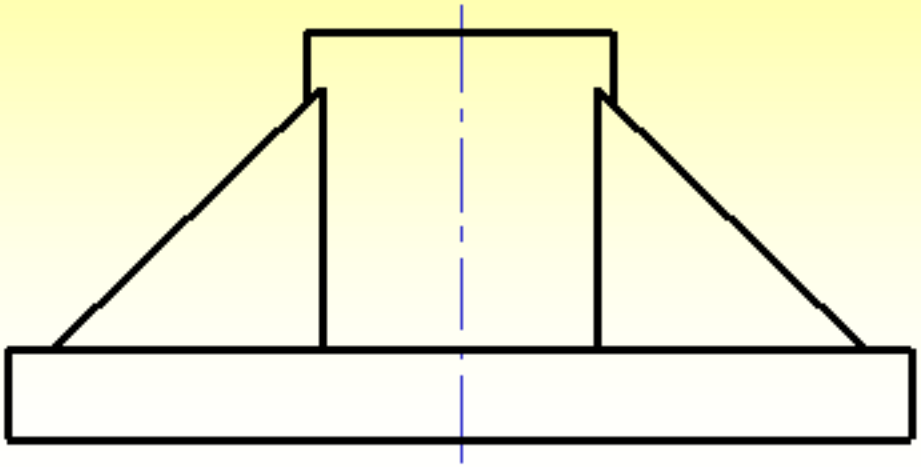


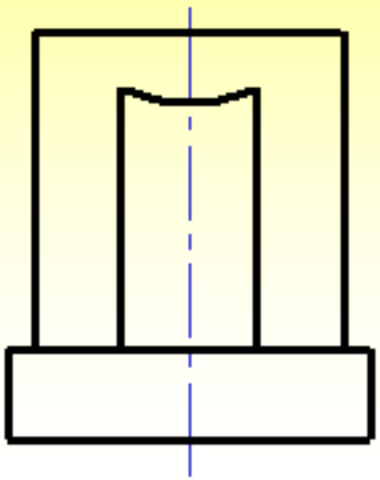


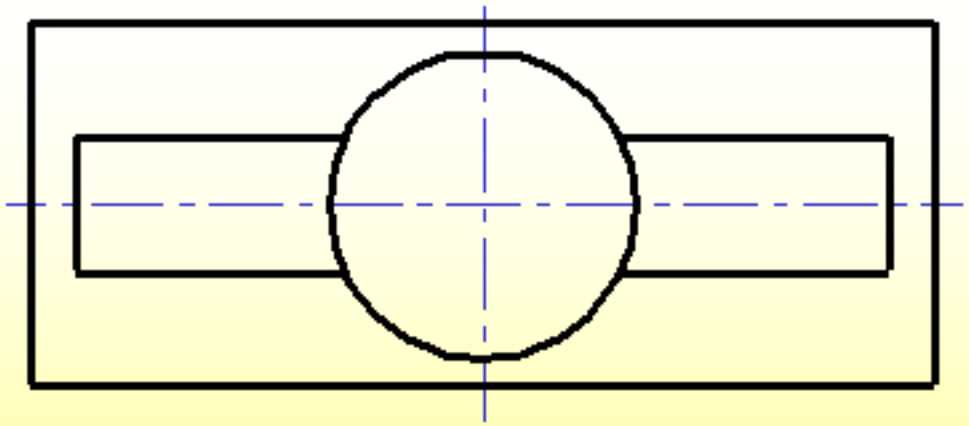


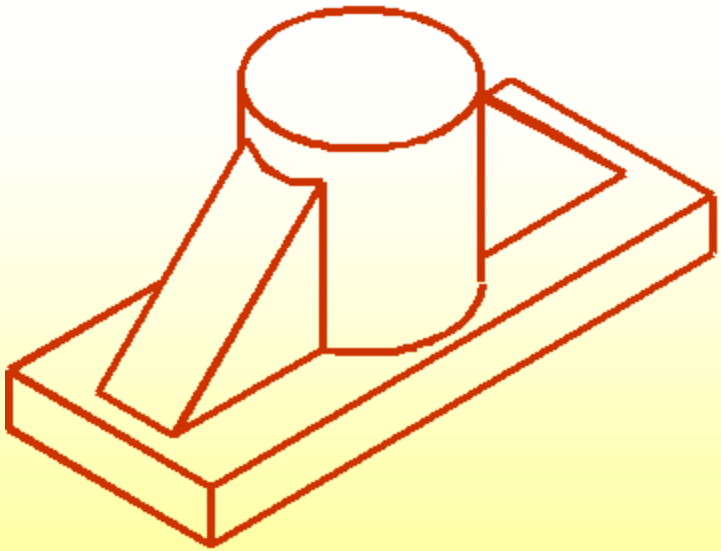


简单结构十二







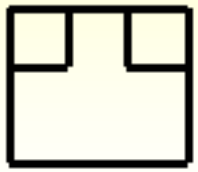


2．要将几个视图联系起来看

一个视图不能唯一确定物体的形状

主视图、俯视图形状相同，但物体的形状可不同

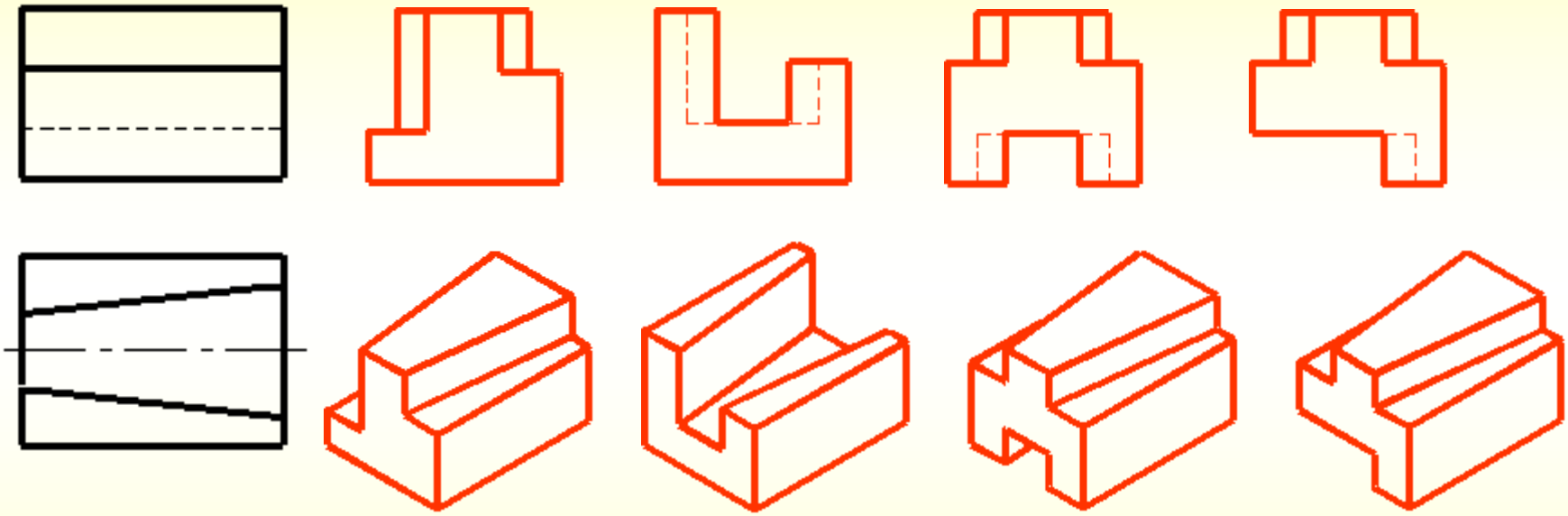
一个视图不能唯一确定物体的形状



物体的主视图

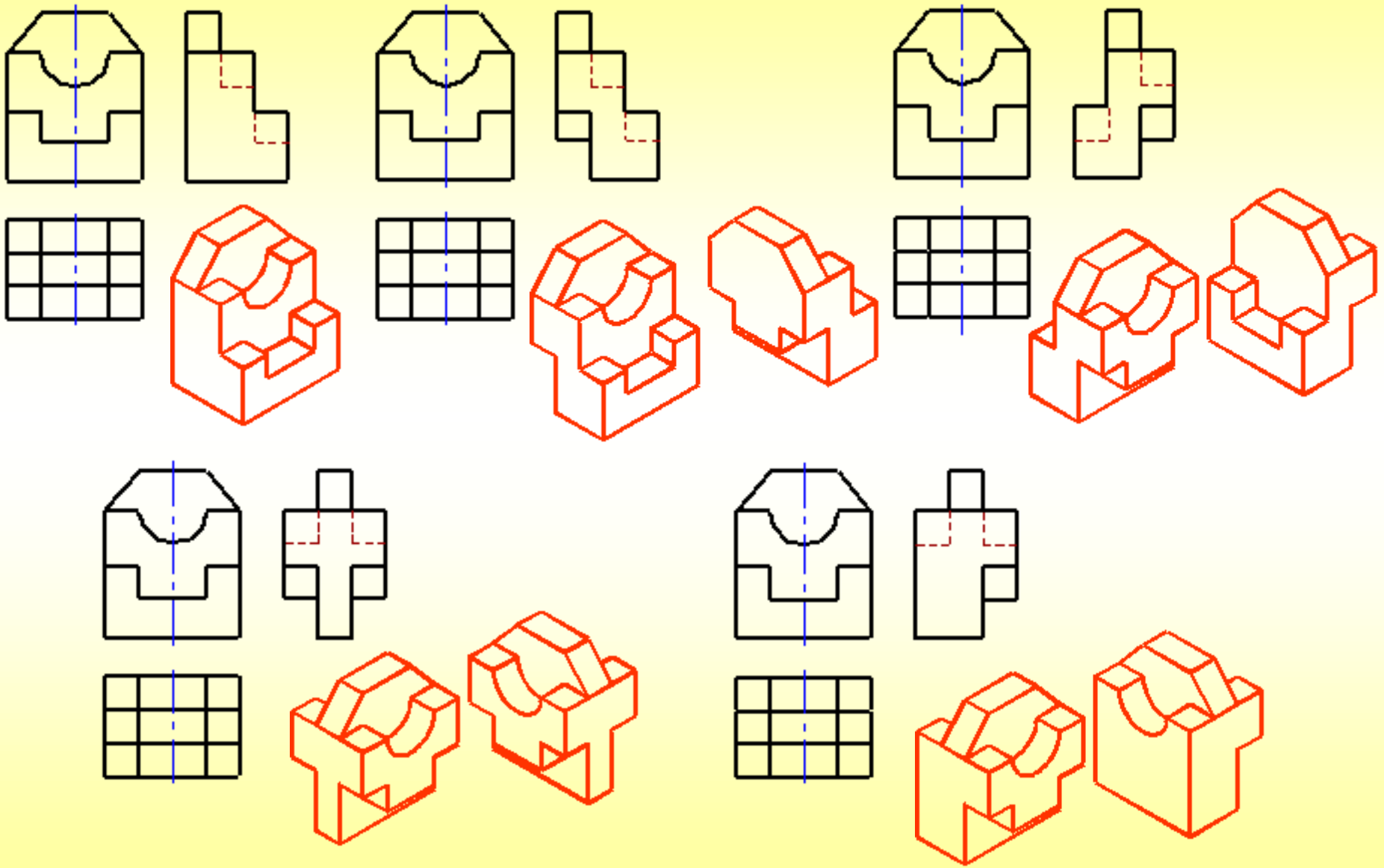
（1）　（2）　（3）　（4）　（5）

主视图、俯视图形状相同，但物体的形状可不同



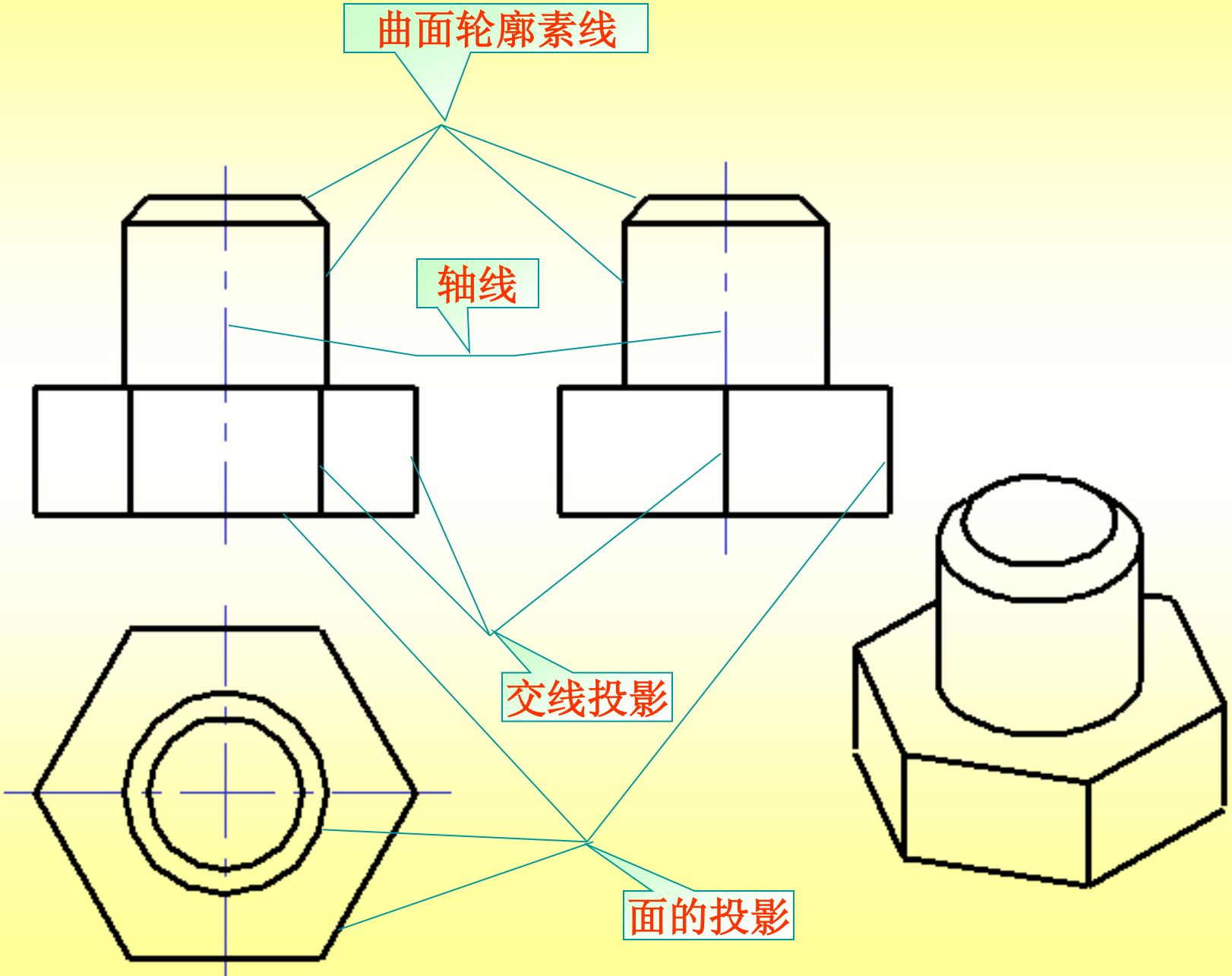
（1）　（2）　（3）　（4）

3．要找出特征视图

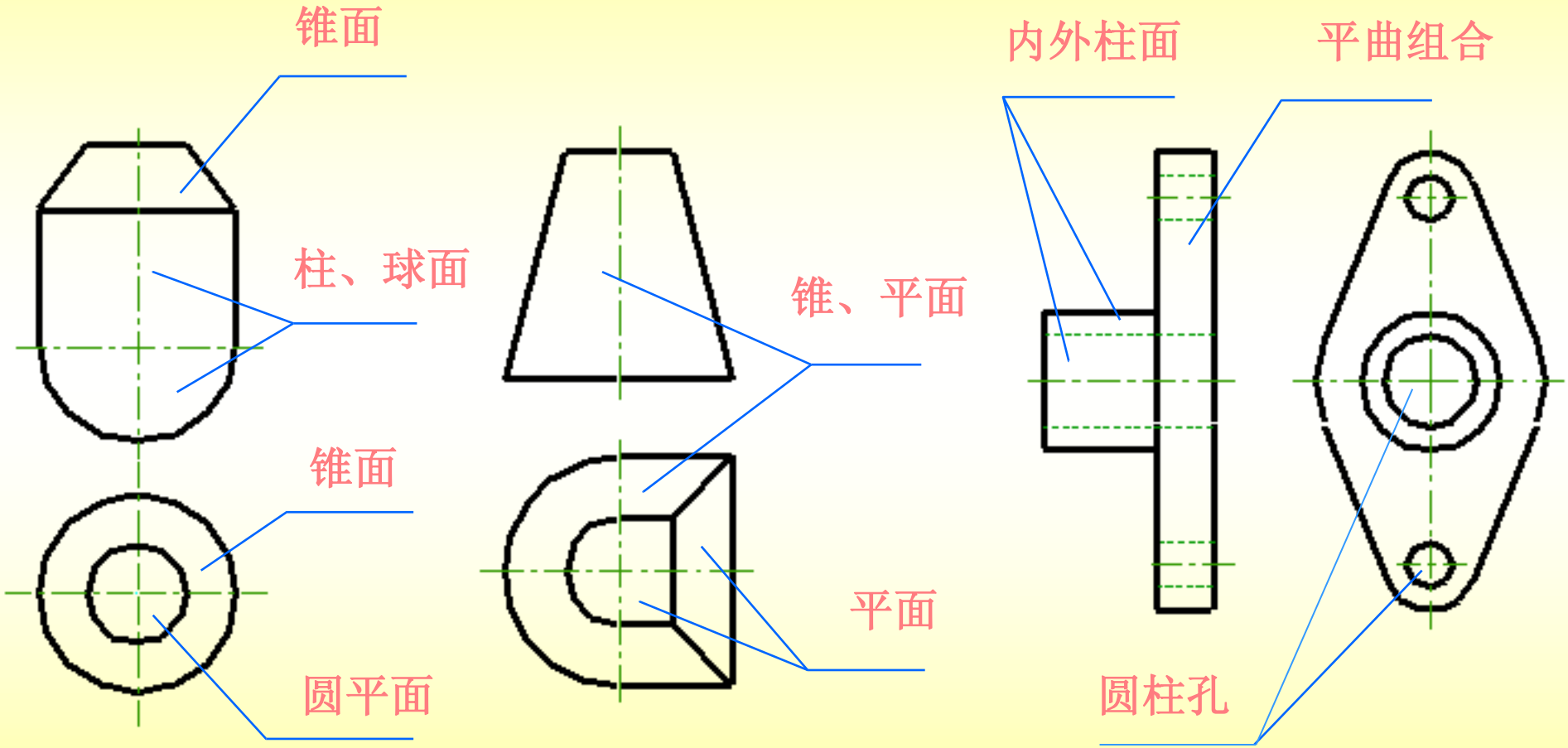


左视图为物体的位置特征视图

4. 要弄清视图中“图线”的含义



5. 要弄清视图中“线框”的含义



6. 要判断出相邻表面间的相对位置