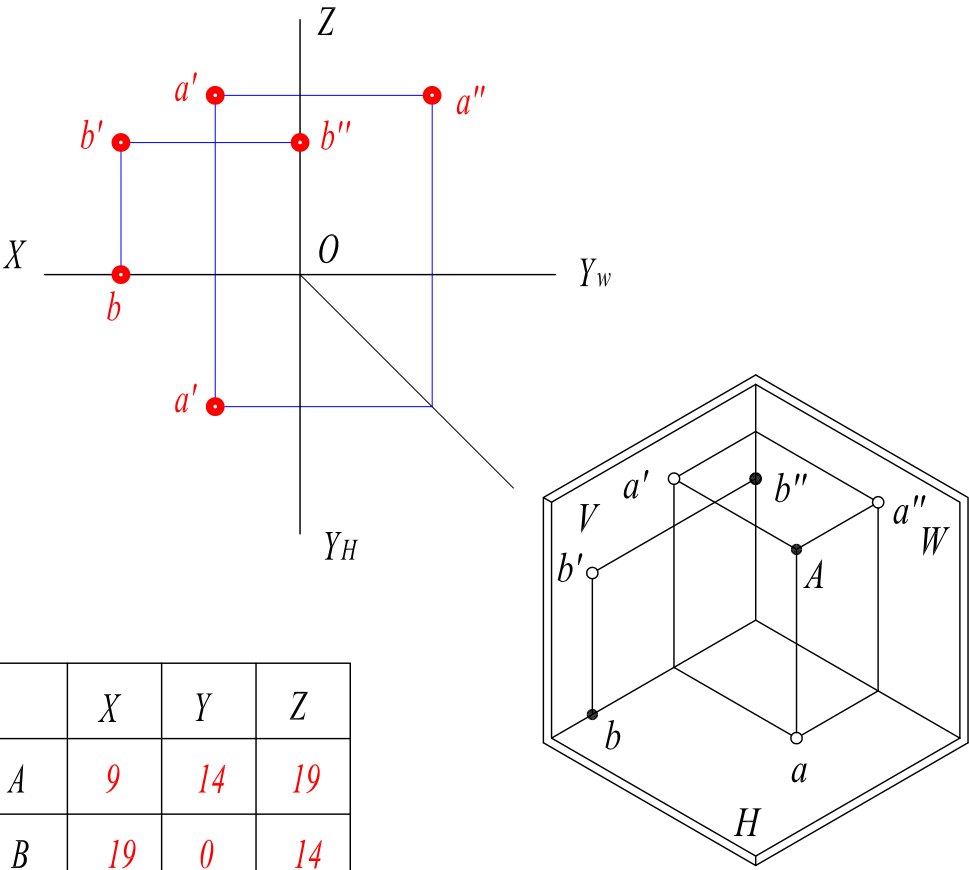
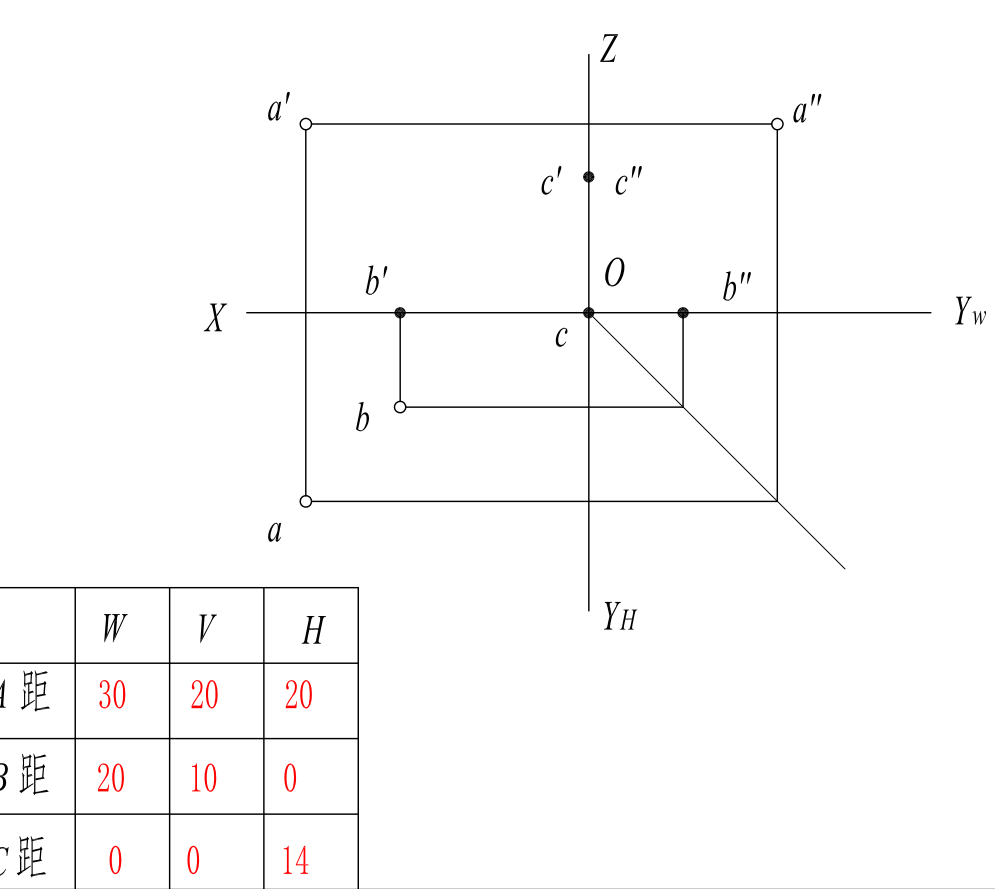


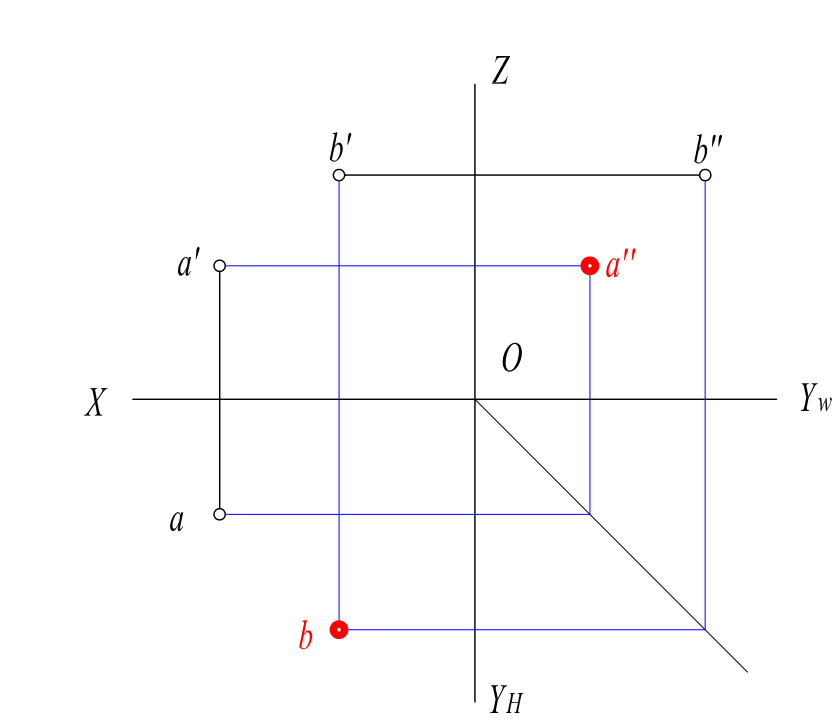
1. 由立体图作A、B两点的三面投影图，并将它们的坐标值填入下面的表格（从立体图中直接量取毫米取整）。



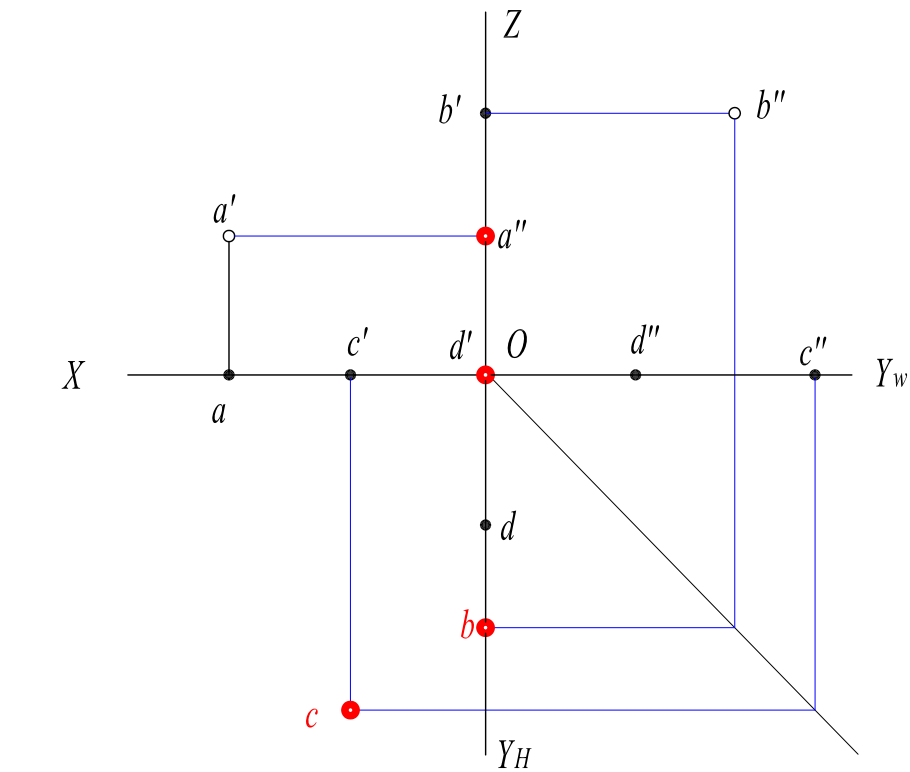
2. 已知各点的三面投影图，将它们离各投影面的距离填入下面的表格（从图中量取毫米取整）。



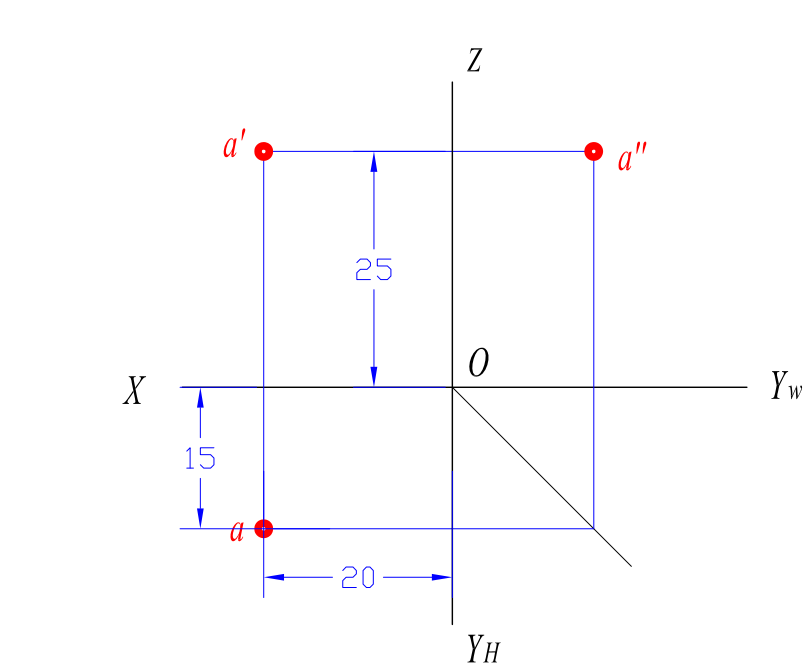
3. 已知A、B两点的两面投影，求它们第三面投影。



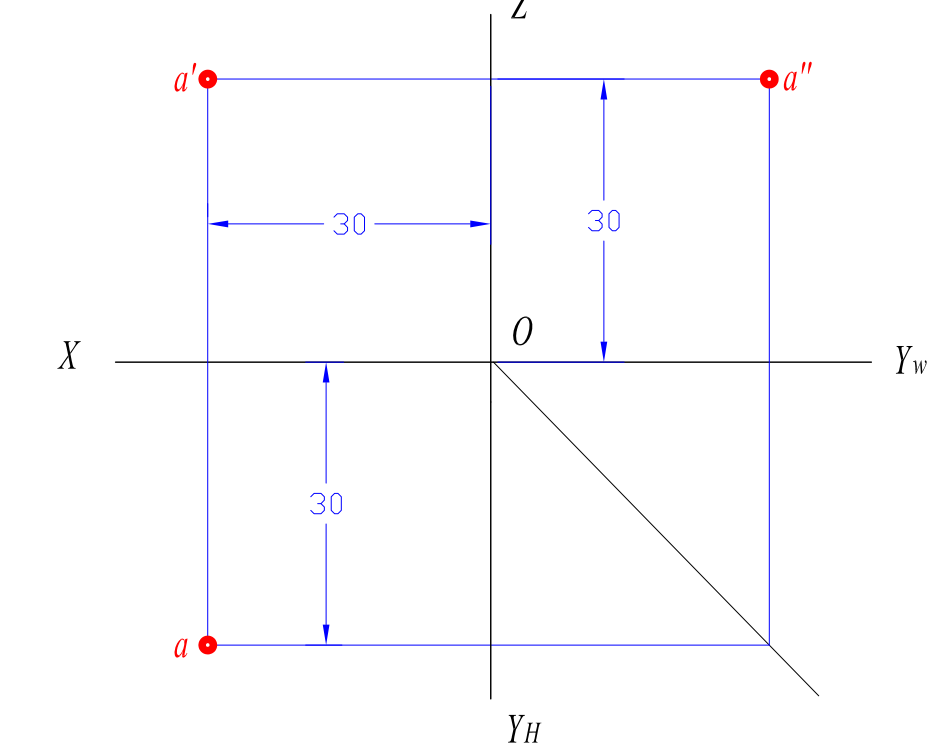
4. 已知A、B、C、D四点的面投影，作它们的第三投影。



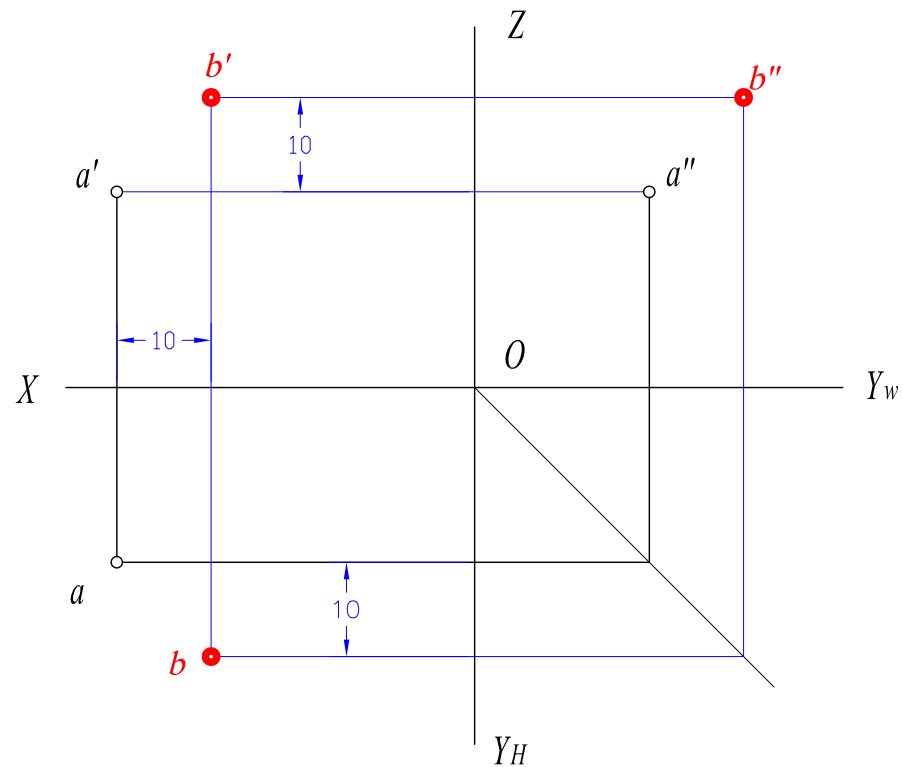
5. 已知点A（20，15，25），作其三面投影图。



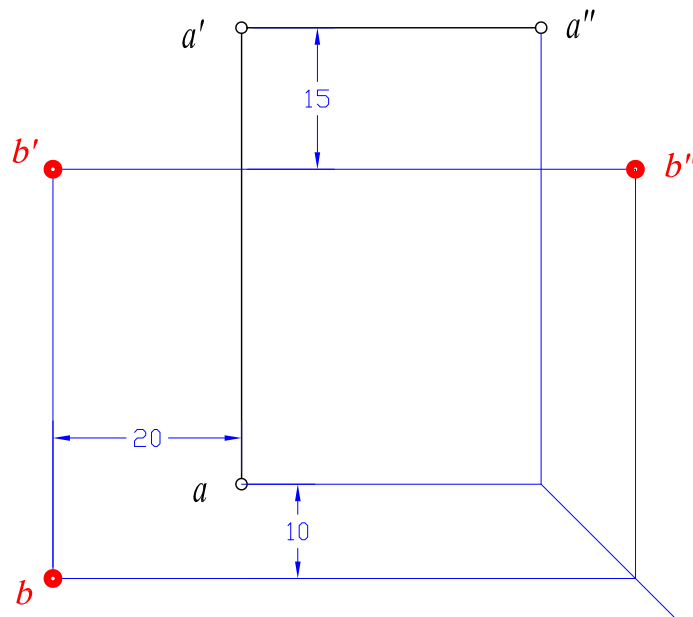
6. 作与投影面V、H、W距离均为30毫米的A点的投影图。



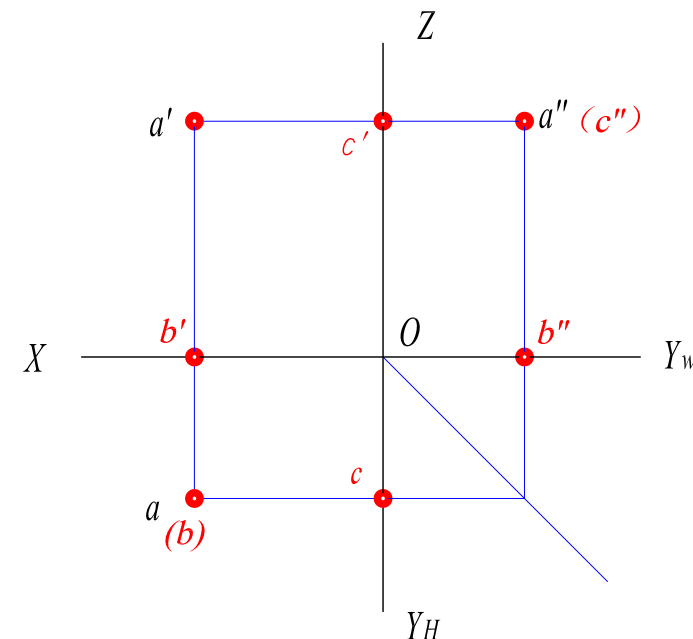
1. 已知 $A$ 点的三面投影,  $B$ 点在 $A$ 点的右方、前方、上方, 距离均为10mm, 作 $B$ 点的三面投影。



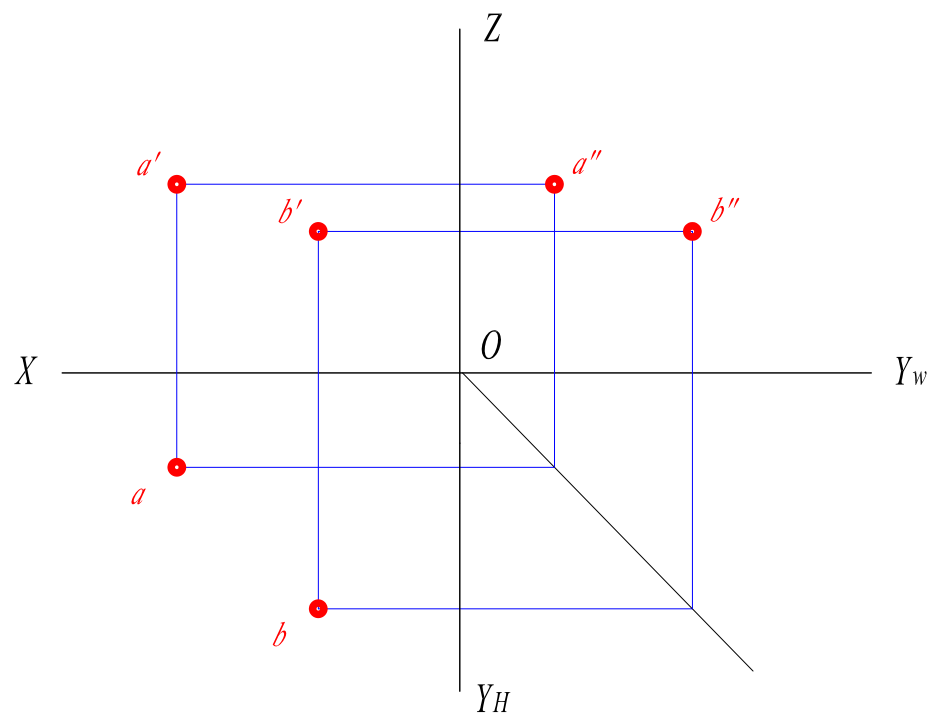
2. 已知 $A$ 点的三面投影,  $B$ 点在 $A$ 点的左方20mm、前方10mm、下方15mm处, 作 $B$ 点的三面投影(无轴投影)。



3. 已知点 $A(20, 15, 25)$ ,  $B$ 点在 $A$ 点正下方的 $H$ 面上,  $C$ 点在 $A$ 点正右方的 $W$ 面上, 作 $A$ 、 $B$ 、 $C$ 三点的投影图; 并判别重影点的可见性(不可见的投影加括号)。

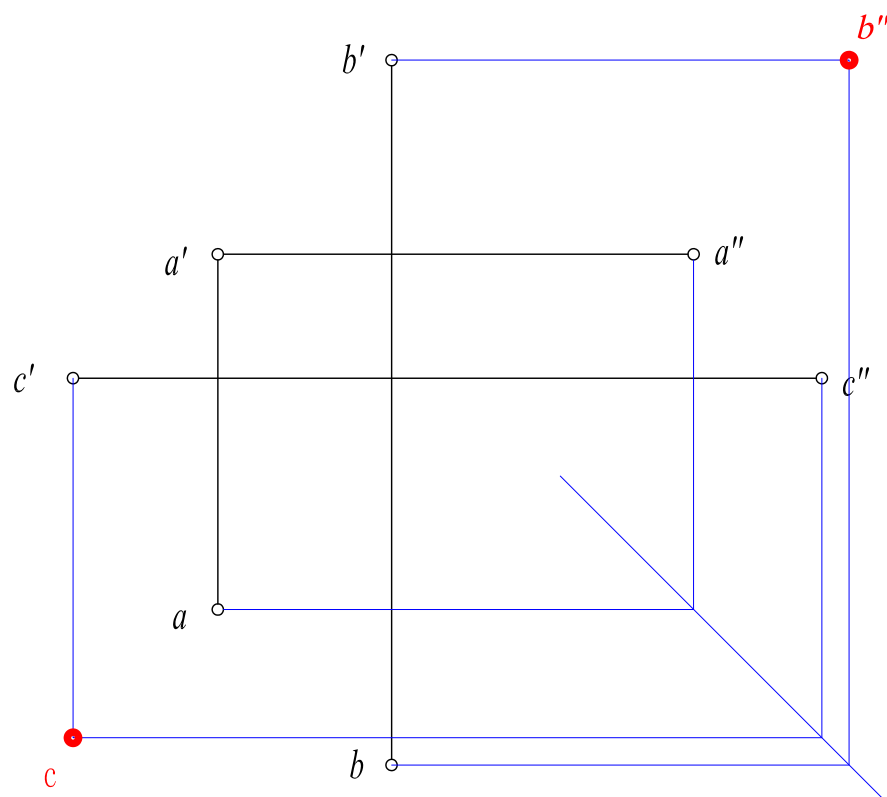


4. 已知 $A(30, 10, 20)$ 、 $B(15, 25, 15)$ , 作它们的三面投影图; 并判别其相对位置(图下填充)。

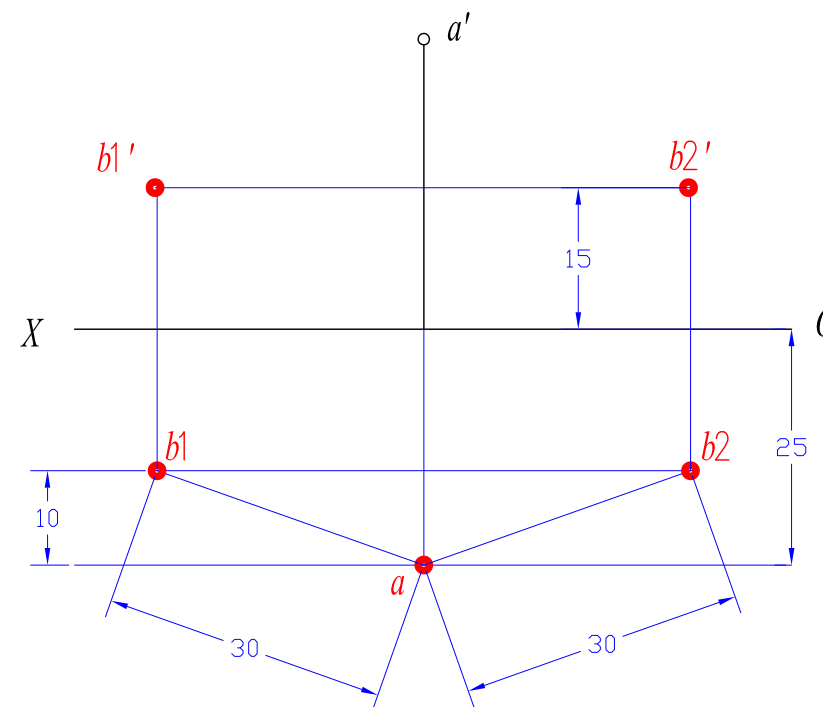


$B$ 点在 $A$ 点的 右方、前方、下方。

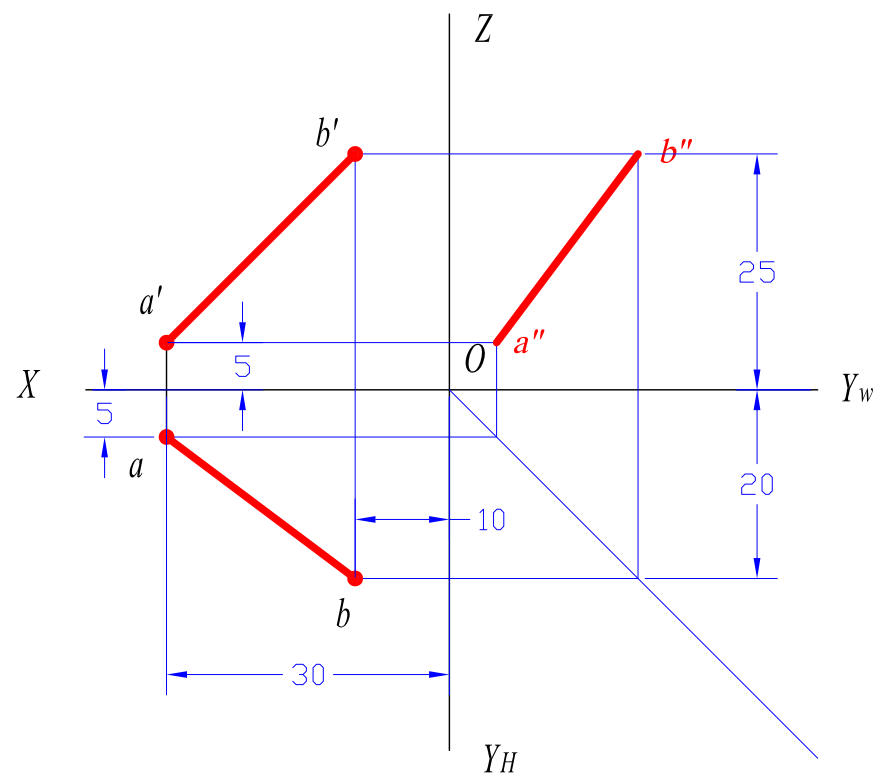
5. 已知 $A$ 点的三个投影和 $B$ 、 $C$ 两点的两个投影, 作 $B$ 、 $C$ 点的第三面投影图(无轴投影)。



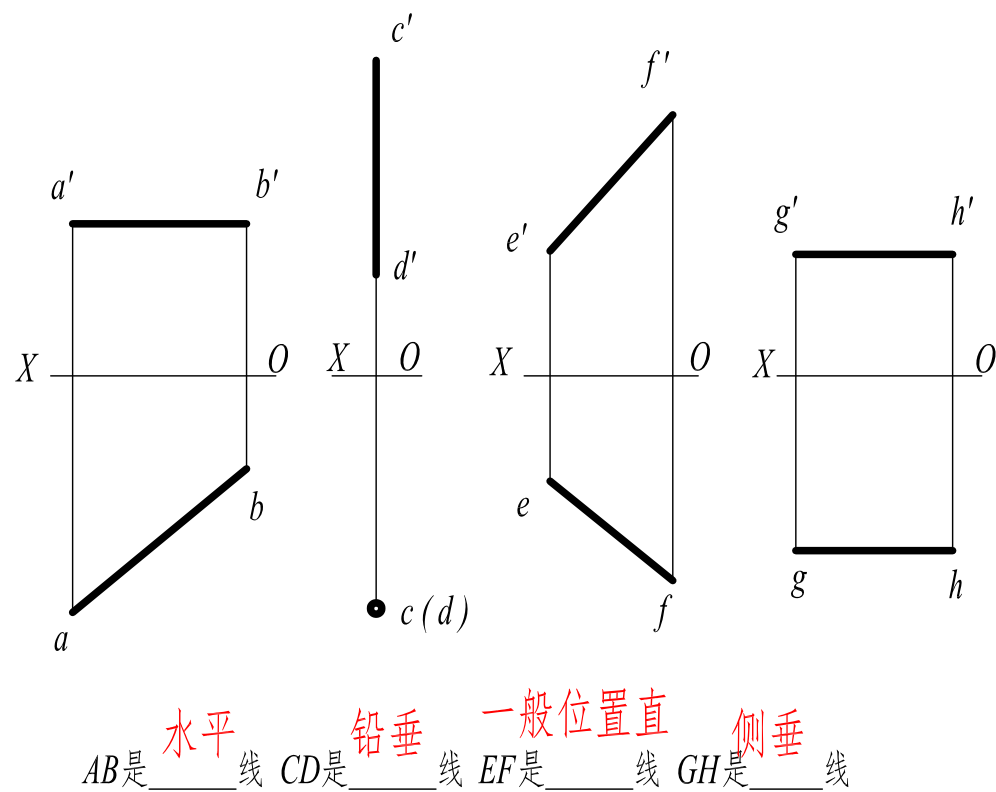
6. 已知 $A$ 点距 $V$ 面25mm,  $B$ 点距 $H$ 面15mm,  $B$ 点在 $A$ 点的后方10mm处, 且它们在 $H$ 面上的投影相距30mm, 完成 $A$ 、 $B$ 点的两面投影图。有几解?



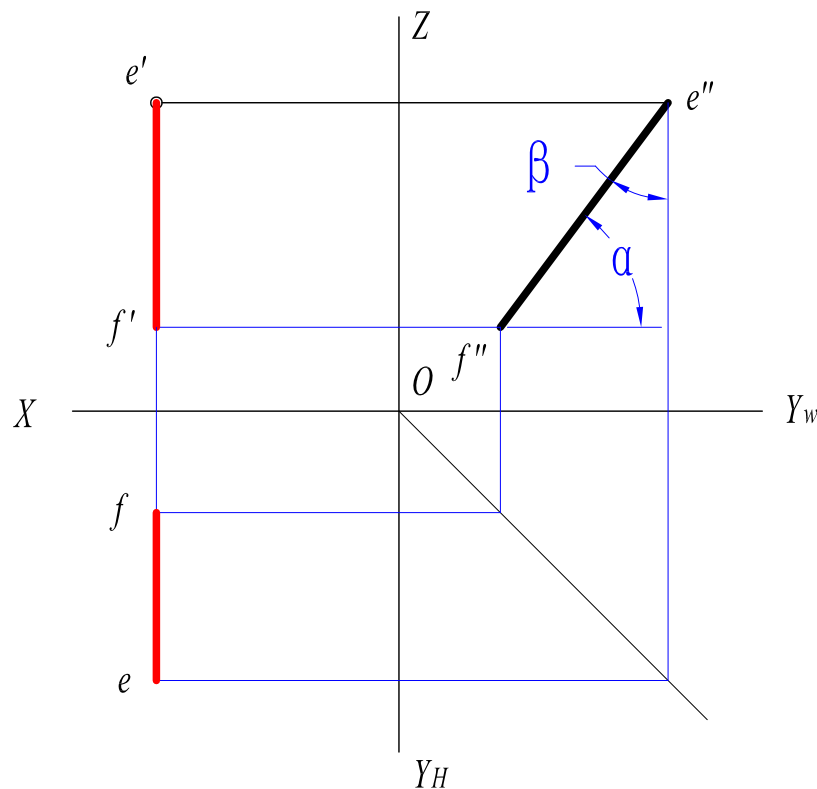
1. 已知直线的两端点 $A(30,5,5)$   $B(10,20,25)$ ，作该直线的三面投影图。



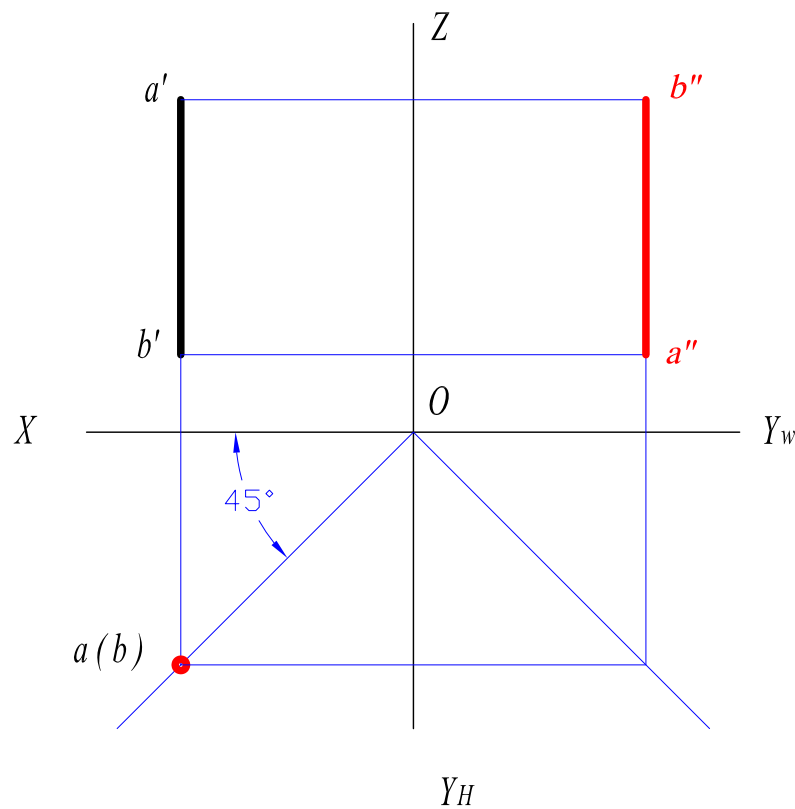
2. 判别下列直线的空间位置（图下填充）。



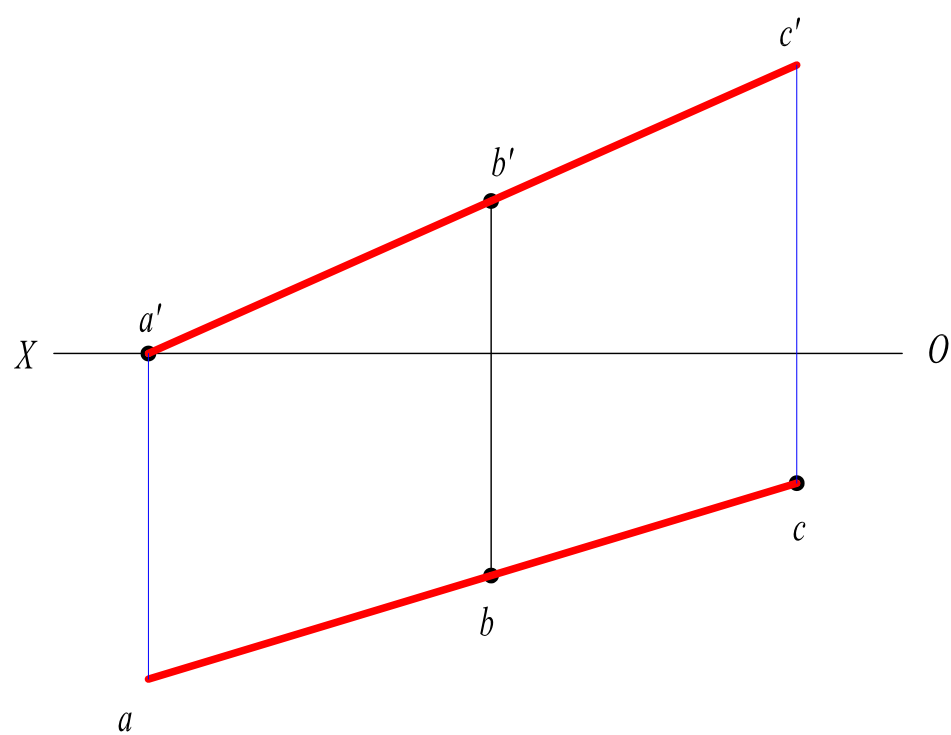
3. 已知直线 $EF$ 为侧平线,求作该直线的 $V$ 、 $H$ 面投影,并在图上标出它与 $V$ 面和 $H$ 面的倾角 $\alpha$ 和 $\beta$ 。



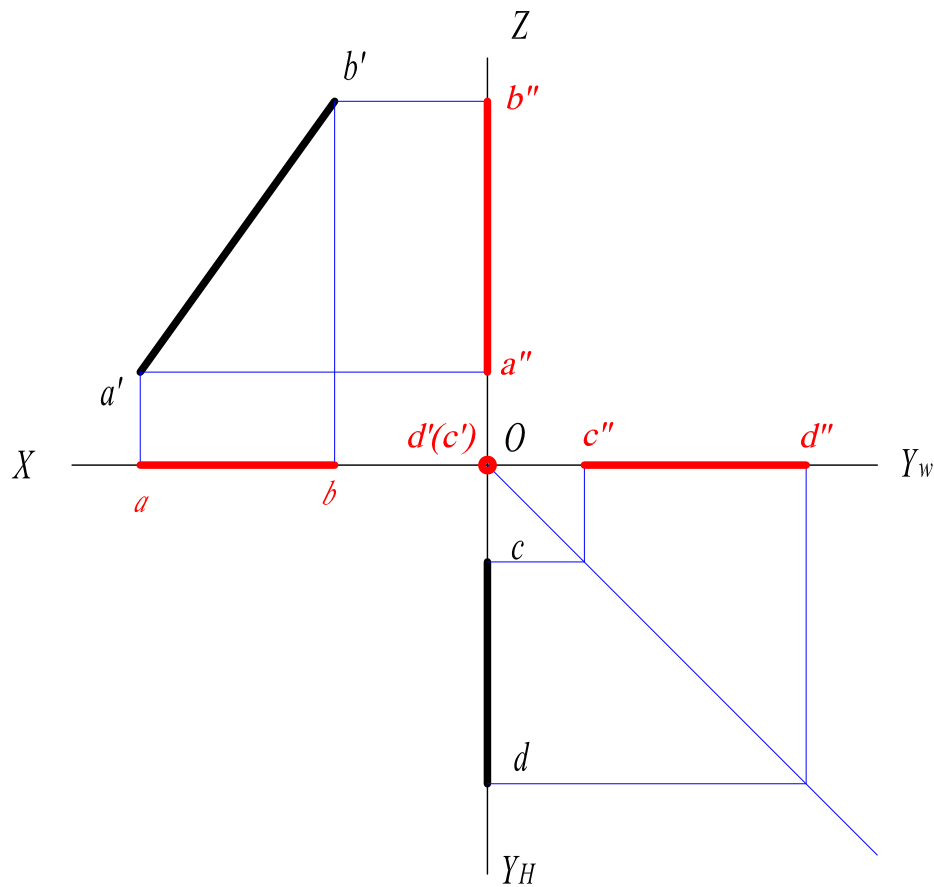
4. 已知直线 $AB$ 为一铅垂线,它到 $V$ 面及 $W$ 面的距离相等,求作该直线的 $H$ 及 $W$ 面投影。



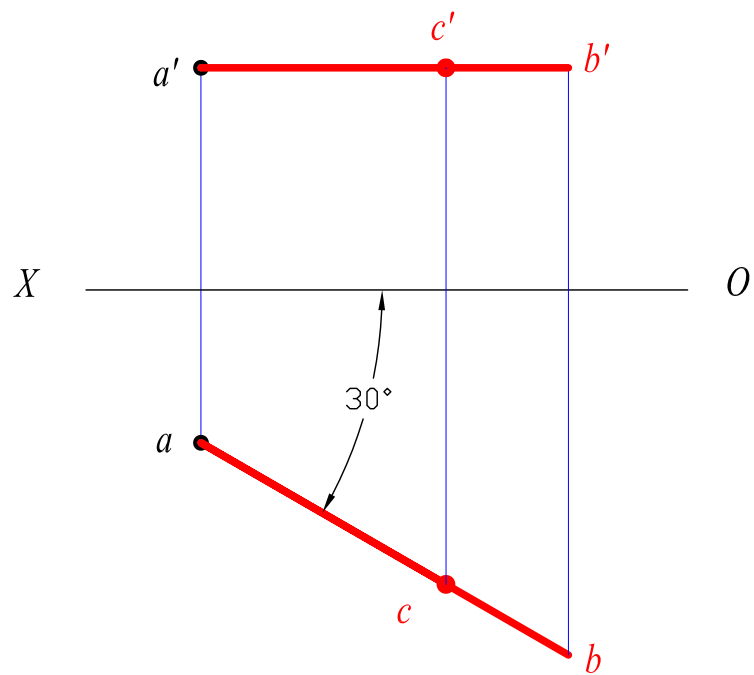
5. 已知 $A$ 、 $B$ 、 $C$ 三点在同一直线上,完成它们的投影。



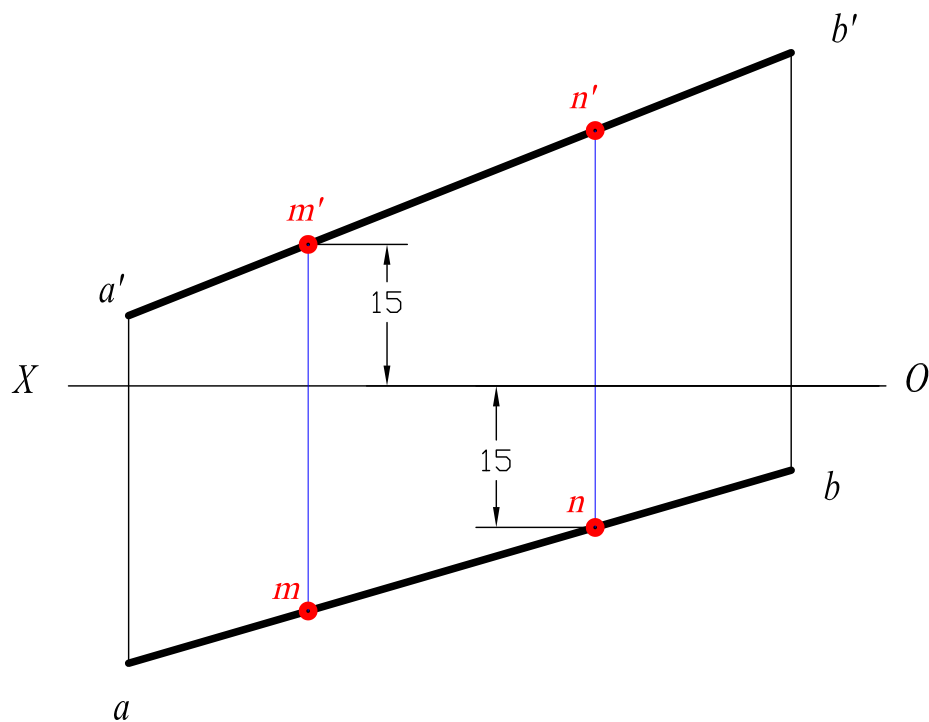
6. 已知直线 $AB$ 在 $V$ 面上,直线 $CD$ 在 $OY$ 轴上,完成它们的另两面投影。



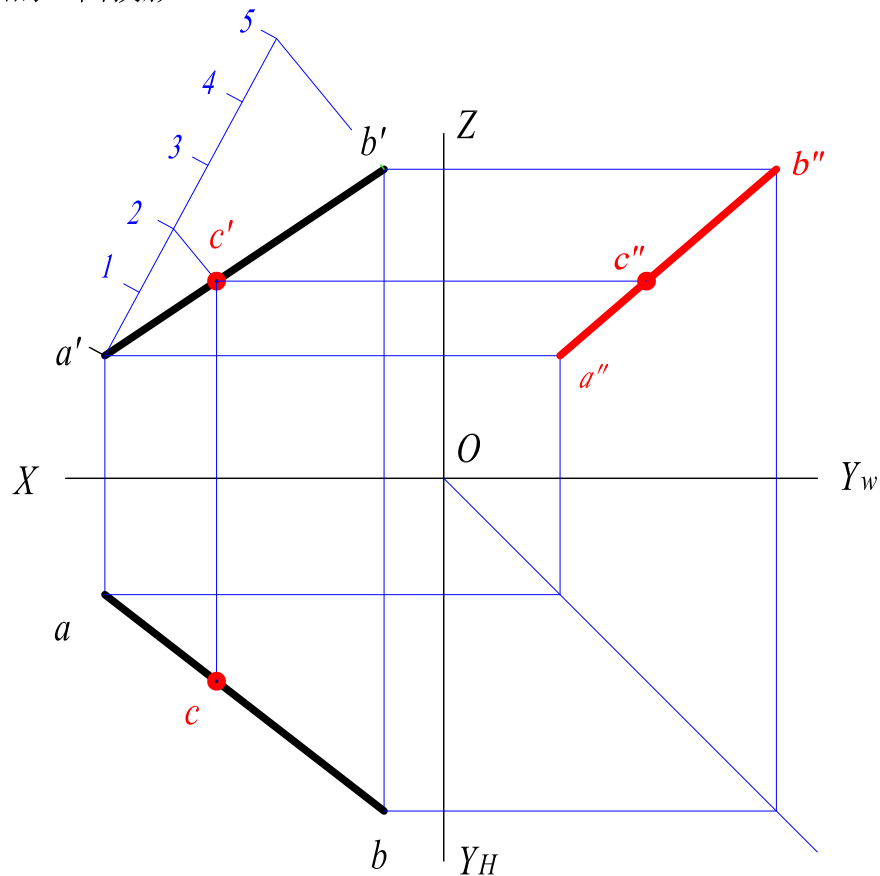
1. 已知水平线 $AB$ 的实长为45mm，它对 $V$ 面的倾角为 $30^\circ$ ，完成该直线的两面投影；并在 $AB$ 上取一点 $C$ ， $AC$ 为30mm，作 $C$ 点的两面投影。



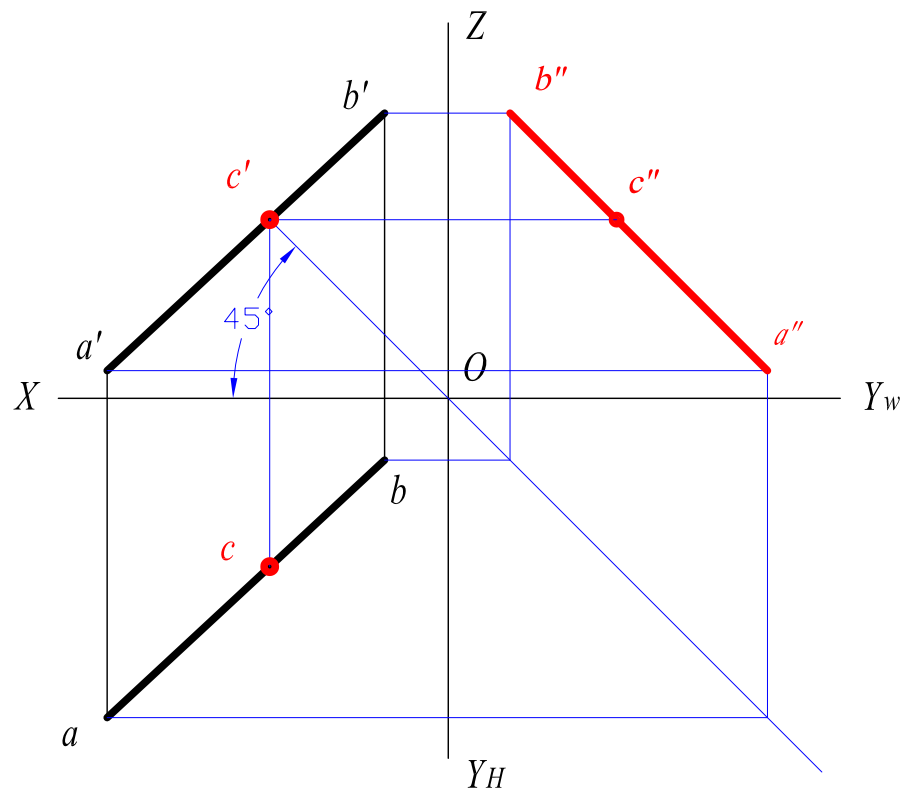
2. 已知直线 $AB$ 的两面投影，在 $AB$ 上取两点 $M$ 、 $N$ ，使 $M$ 点距 $H$ 面15mm； $N$ 点距 $V$ 面15mm。完成它们的两面投影。



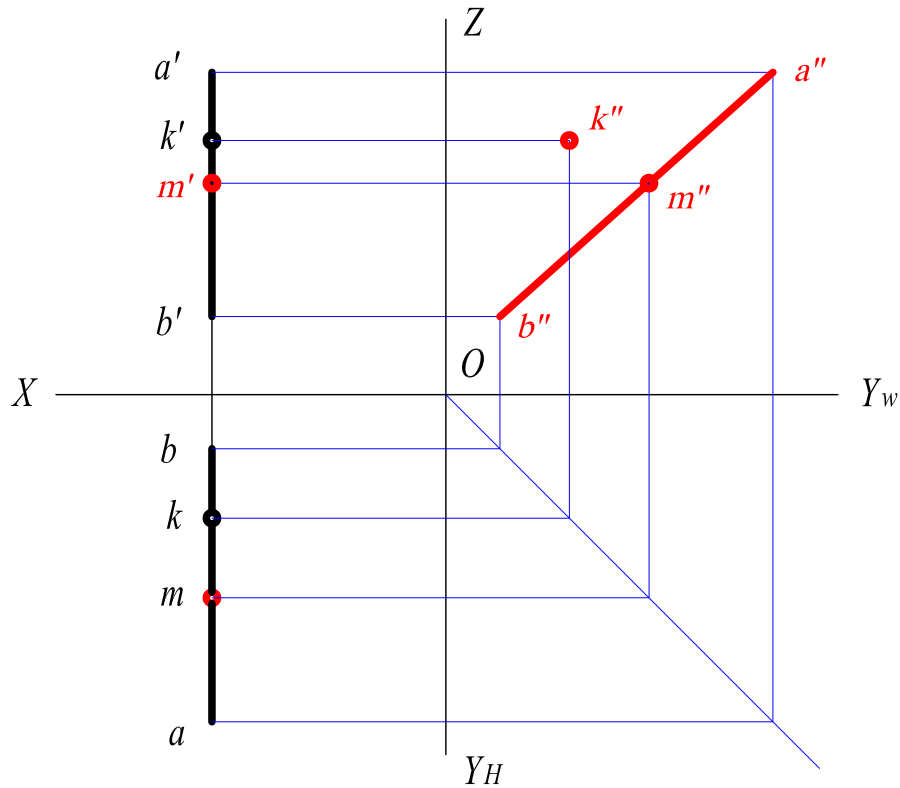
3. 已知 $C$ 点在直线 $AB$ 上，且 $AC:CB=2:3$ ，完成直线 $AB$ 的侧面投影和 $C$ 点的三面投影。



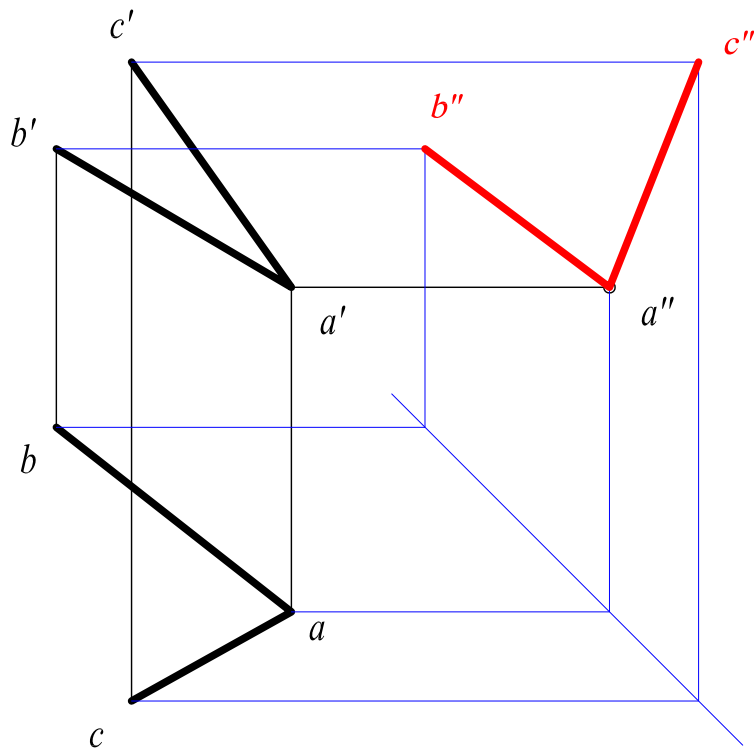
4. 已知直线 $AB$ 的两面投影，在 $AB$ 上取一点 $C$ ，使它距 $H$ 、 $W$ 面等远，完成直线 $AB$ 的侧面投影及 $C$ 点的三面投影。



5. 完成直线 $AB$ 的第三投影后，再求位于直线 $AB$ 上的 $M$ 点的另两面投影；最后作图判别点 $K$ 是否在直线 $AB$ 上？（求出 $k''$ 即可）



6. 画出 $AB$ 、 $AC$ 两直线的侧面投影（不得画出投影轴）。



1. 判别 $AB$ 、 $CD$ 两直线的相对位置（平行、相交、交叉）。

( 平行 )      ( 异面 )      ( 相交 )

( 相交 )      ( 相交 )      ( 异面 )

2. 过 $A$ 点作直线 $AB$ ，使 $AB$ 与 $CD$ 相交，交点距 $V$ 面20毫米。

3. 过 $M$ 点作直线 $MN$ 平行于直线 $AB$ ，其 $N$ 点在 $H$ 面上。

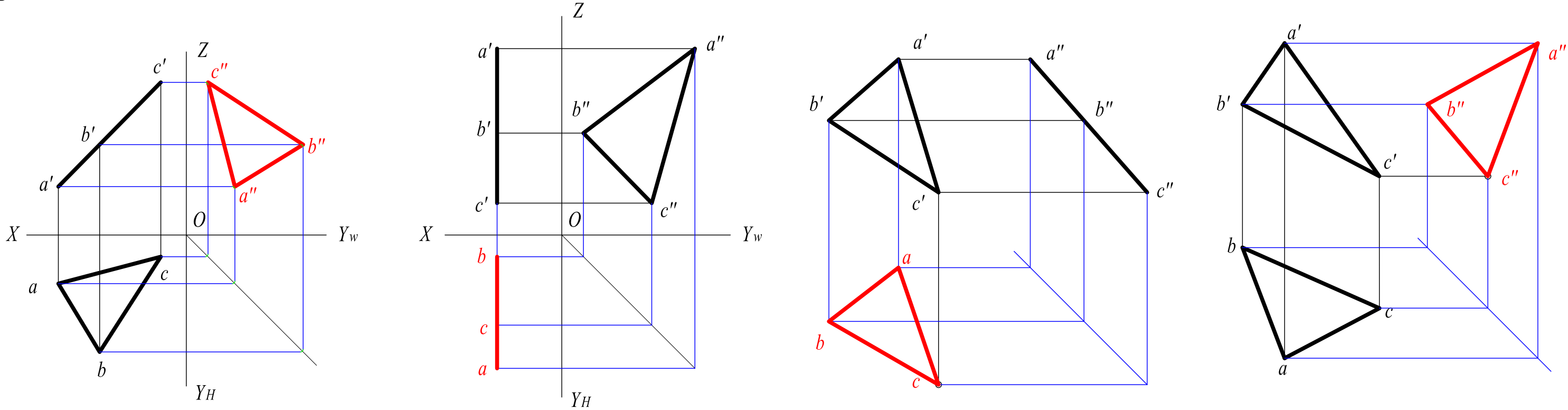
4. 过 $E$ 点作直线 $EF$ 与 $CD$ 平行，且与直线 $AB$ 相交。

5. 作距 $H$ 面20mm的水平线 $EF$ ，使其与 $AB$ 、 $CD$ 两直线同时相交。

6. 已知 $AB$ 、 $CD$ 两直线相交， $AB$ 为正平线，求 $ab$ （不用侧面）。

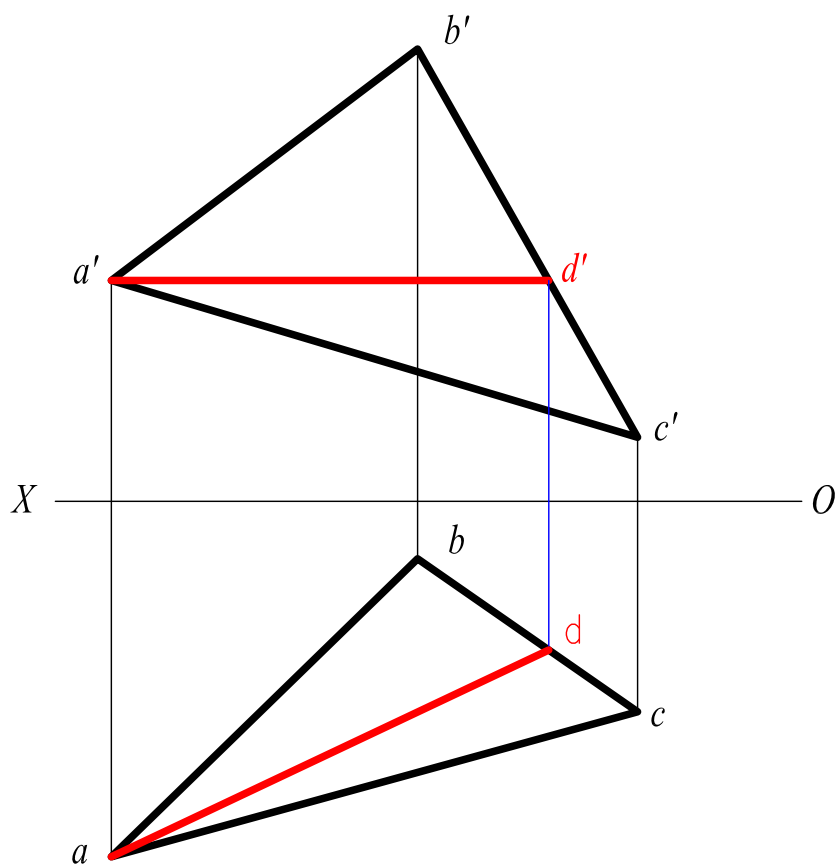
$cdl=c'd'$   
 $ckl=c'k'$   
 $kk1//dd1$

1. 完成下列四个平面的投影，并判别它们的空间位置（图下填充）。

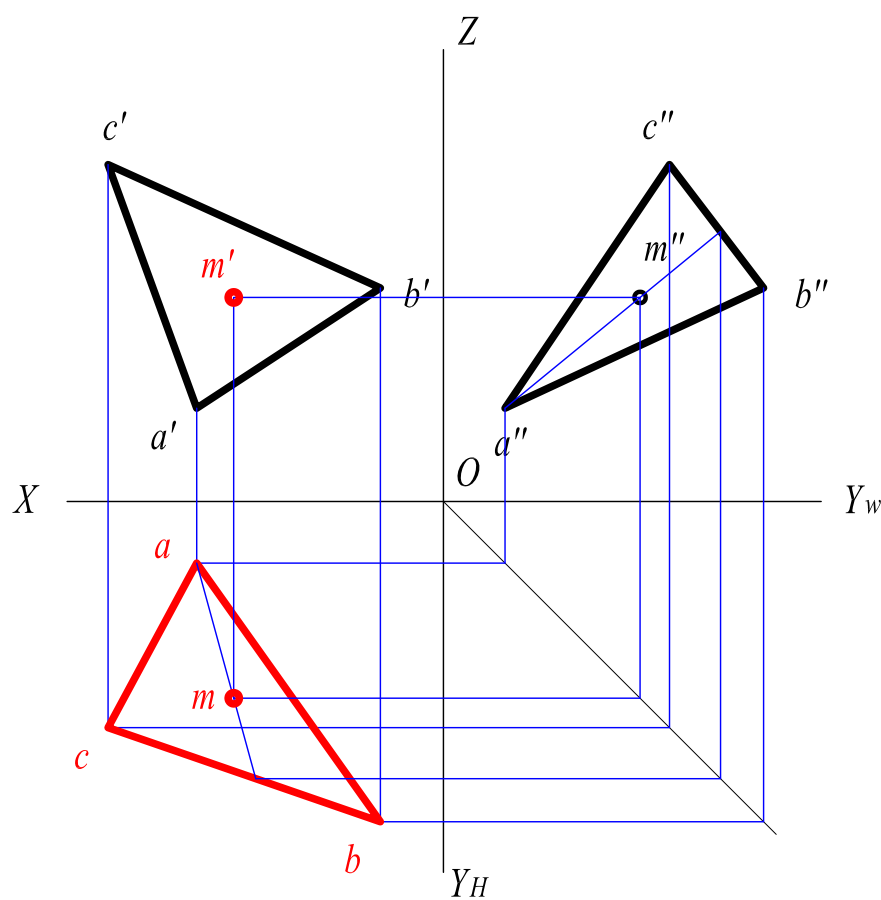


$\triangle ABC$ 是 正垂 面。 $\triangle ABC$ 是 侧平 面。 $\triangle ABC$ 是 侧垂 面。 $\triangle ABC$ 是 一般位置平 面。

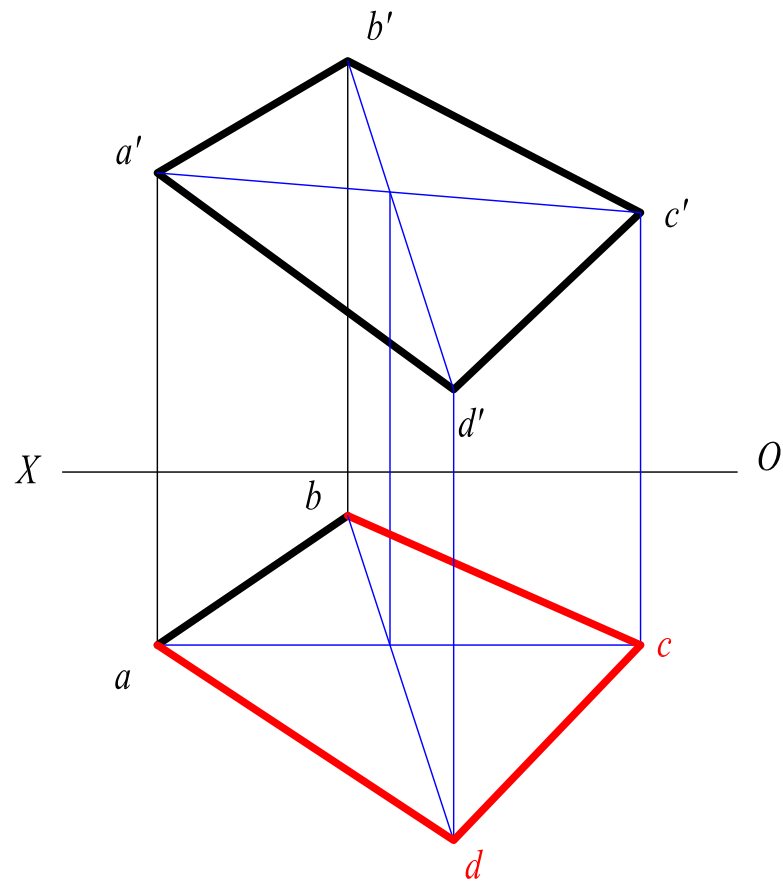
2. 在 $\triangle ABC$ 平面上过 $A$ 点作一该面上的水平线。



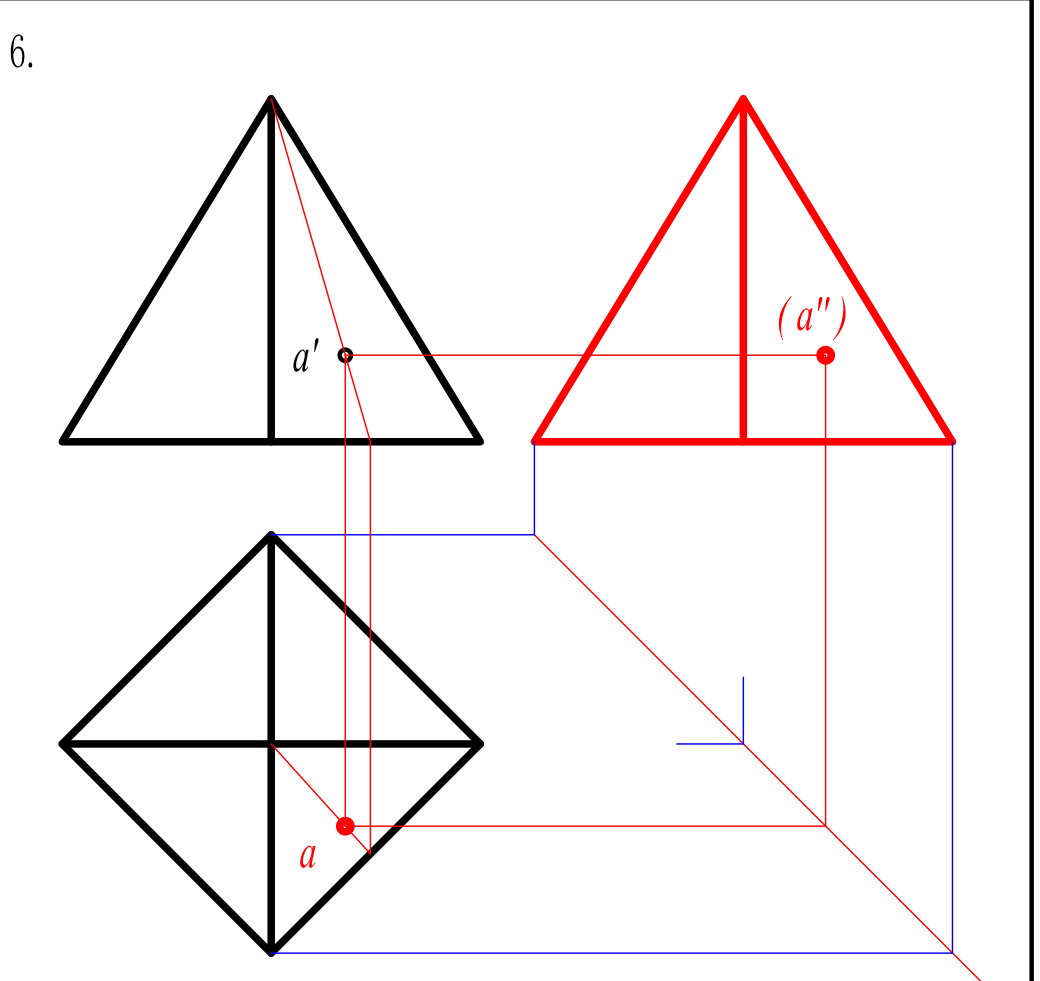
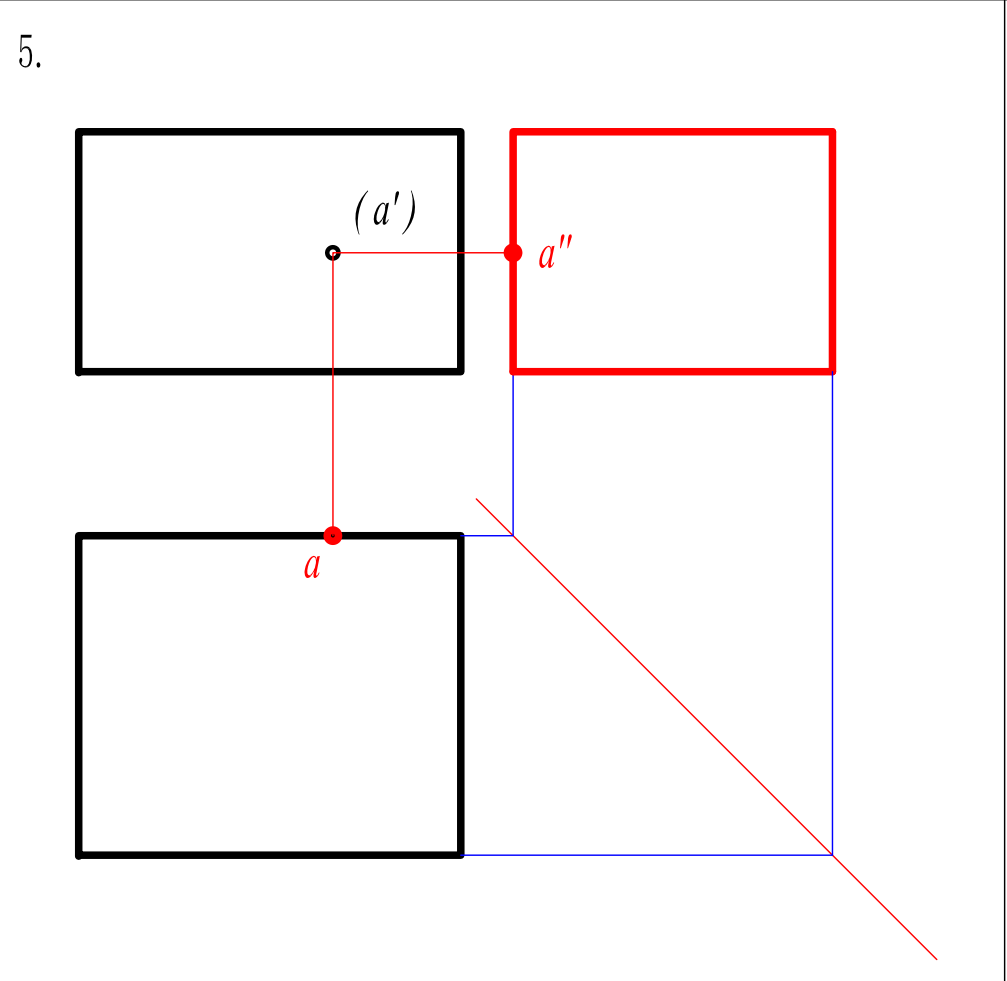
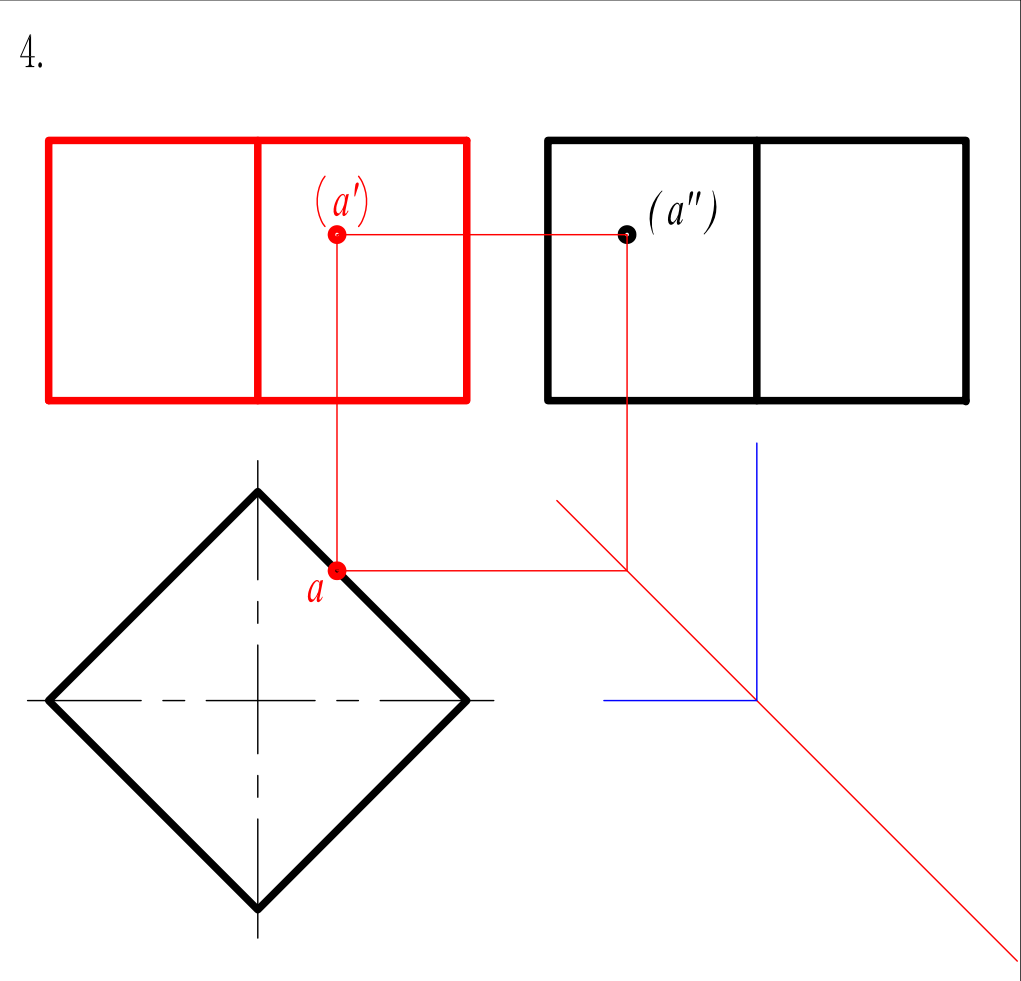
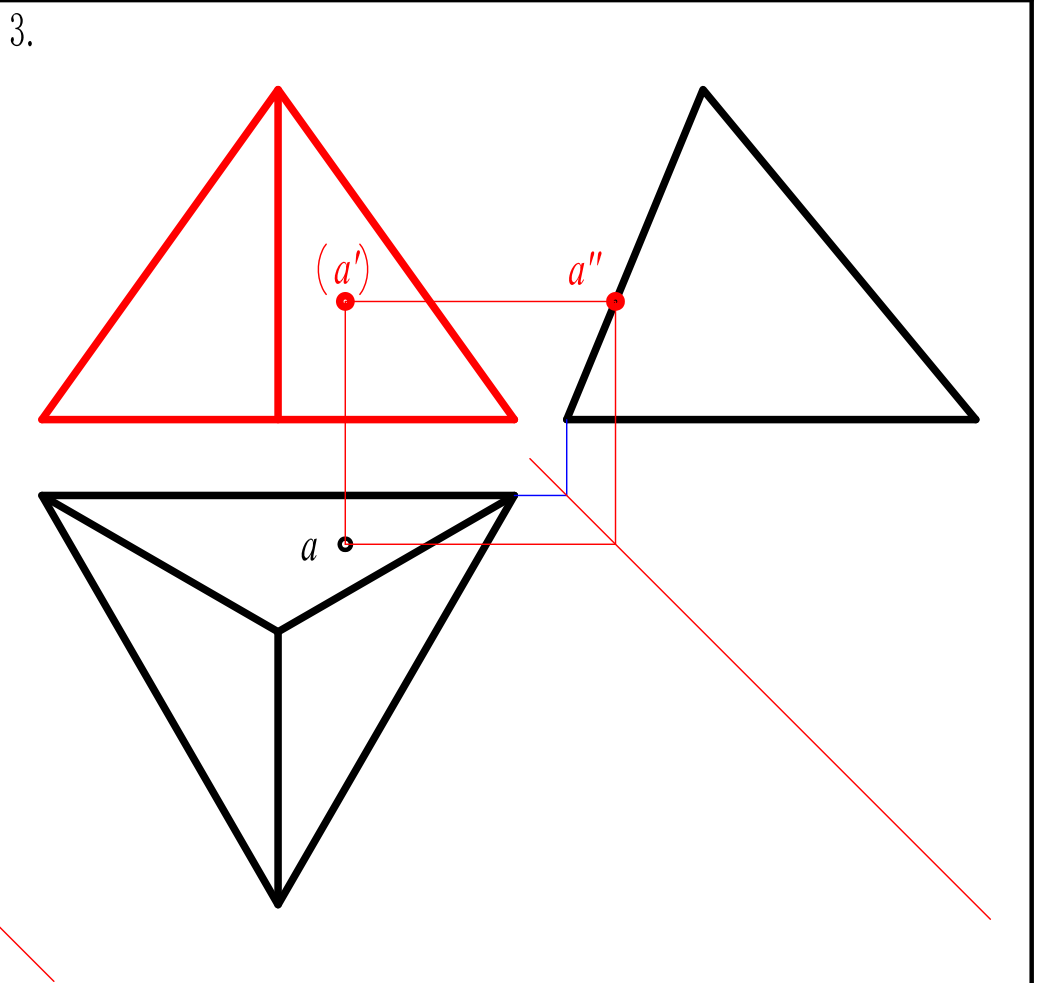
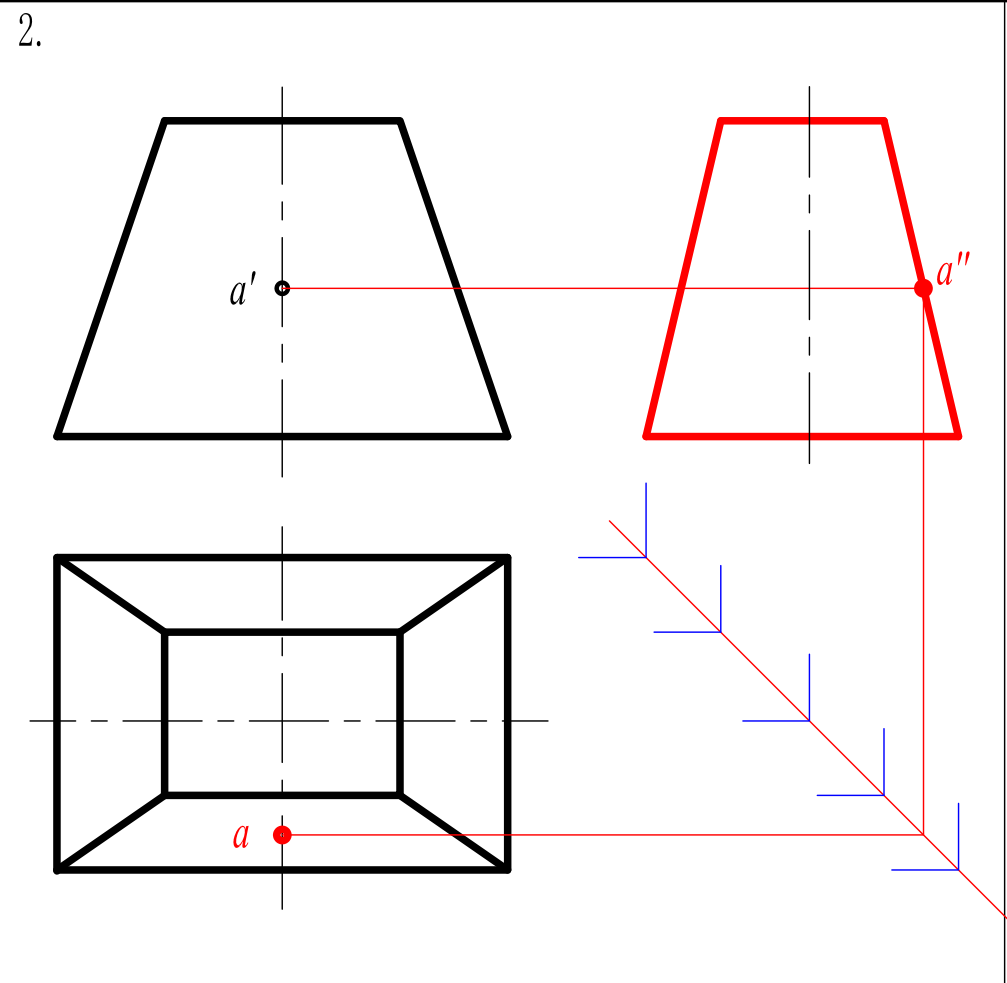
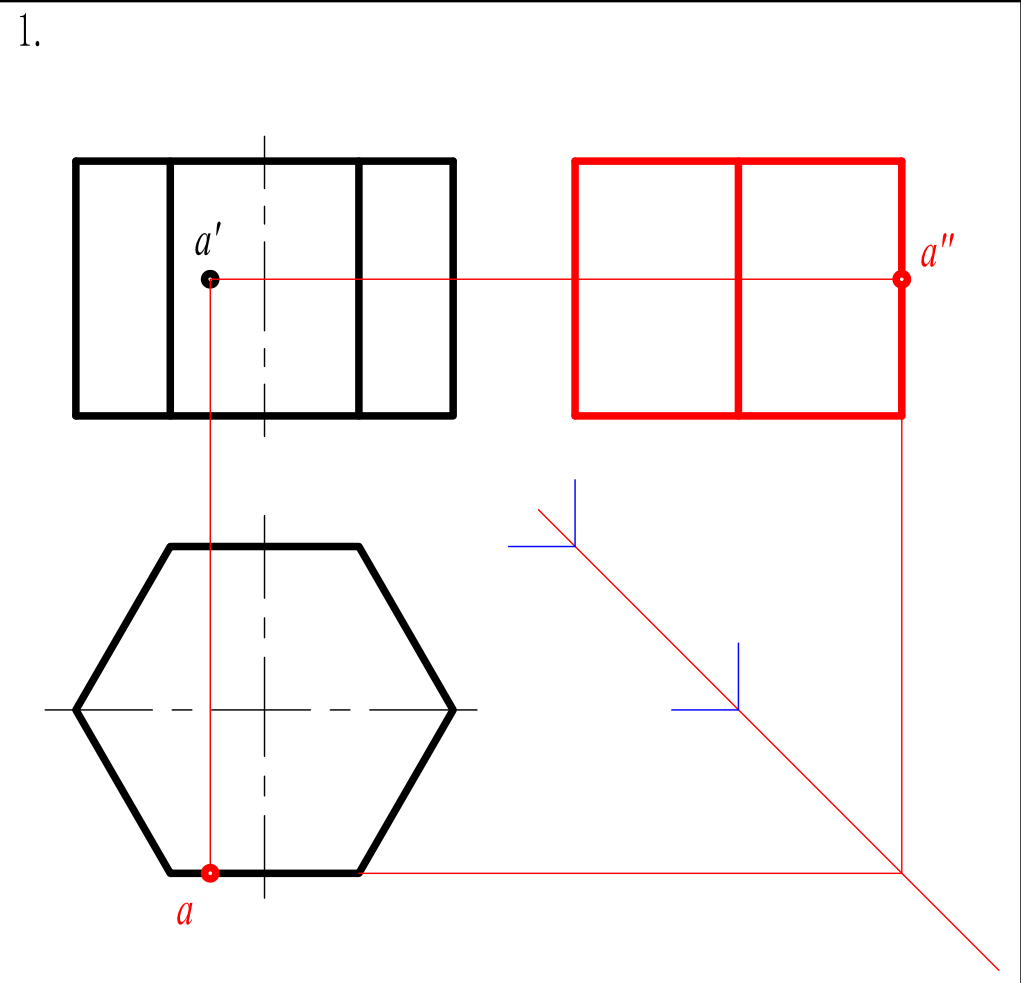
3. 已知 $M$ 点在 $\triangle ABC$ 平面上，完成该面和 $M$ 点的其余投影。



4. 已知平面 $ABCD$ 的对角线 $AC$ 为正平线，完成该平面的水平投影。



求作下列平面立体的第三视图及其表面点A的另两个投影



求作下列曲面立体的第三视图及其表面点A的另两个投影

1.

Diagram 1 shows the orthographic projection of a cylinder. The front view is a rectangle with a vertical centerline. The top-left corner is marked with a black dot and labeled  $a'$ . The top-right corner is marked with a red dot and labeled  $a''$ . The top view is a circle with a horizontal centerline. A red dot on the leftmost point of the circle is labeled  $a$ . Red projection lines connect  $a'$  to  $a$  and  $a''$  to  $a$ . The right view is a rectangle drawn in red, with its top-right corner at the same height as  $a''$  and its right edge aligned with the centerline of the top view.

2.

Diagram 2 shows the orthographic projection of a cone. The front view is a triangle with a vertical centerline. A red dot on the left edge is labeled  $a'$ . The top view is a circle with a horizontal centerline. A black dot on the right edge of the circle is labeled  $a$ . Red projection lines connect  $a'$  to  $a$  and  $a''$  to  $a$ . The right view is a triangle drawn in red, with its top-right corner at the same height as  $a''$  and its right edge aligned with the centerline of the top view.

3.

Diagram 3 shows the orthographic projection of a sphere. The front view is a circle with a horizontal centerline. A black dot on the left edge is labeled  $a'$ . The top view is a circle with a horizontal centerline. A red dot on the bottom edge of the circle is labeled  $a$ . Red projection lines connect  $a'$  to  $a$  and  $a''$  to  $a$ . The right view is a circle drawn in red, with its top-right corner at the same height as  $a''$  and its right edge aligned with the centerline of the top view.

4.

Diagram 4 shows the orthographic projection of a truncated cone. The front view is a trapezoid with a vertical centerline. A black dot on the top edge is labeled  $a'$ . The top view is a circle with a horizontal centerline. A red dot on the left edge of the circle is labeled  $a$ . Red projection lines connect  $a'$  to  $a$  and  $a''$  to  $a$ . The right view is a trapezoid drawn in red, with its top-right corner at the same height as  $a''$  and its right edge aligned with the centerline of the top view.

5.

Diagram 5 shows the orthographic projection of a hemisphere. The front view is a semi-circle with a horizontal centerline. A red dot on the left edge is labeled  $a'$ . The top view is a circle with a horizontal centerline. A black dot on the right edge of the circle is labeled  $a$ . Red projection lines connect  $a'$  to  $a$  and  $a''$  to  $a$ . The right view is a semi-circle drawn in red, with its top-right corner at the same height as  $a''$  and its right edge aligned with the centerline of the top view.

6.

Diagram 6 shows the orthographic projection of a cylinder. The front view is a rectangle with a horizontal centerline. A red dot on the top edge is labeled  $a'$ . The top view is a circle with a horizontal centerline. A black dot on the right edge of the circle is labeled  $a$ . Red projection lines connect  $a'$  to  $a$  and  $a''$  to  $a$ . The right view is a semi-circle drawn in red, with its top-right corner at the same height as  $a''$  and its right edge aligned with the centerline of the top view.



分析平面立体表面的交线，补画图中的漏线及第三视图（不可见的投影画虚线）

1.

Orthographic projection of a U-shaped block with a triangular prism on top. The front view shows a U-shape with a dashed line for the hidden intersection. The top view shows a triangle with two red vertical lines. The isometric view shows the 3D object. Blue projection lines connect the views.

2.

Orthographic projection of a stepped block. The front view shows a stepped profile. The top view shows a diamond shape with a red vertical line. The isometric view shows the 3D object. Blue projection lines connect the views.

3.

Orthographic projection of a complex block with a triangular prism on top. The front view shows a complex profile. The top view shows a rectangle with a red rectangle inside. The isometric view shows the 3D object. Blue projection lines connect the views.

4.

Orthographic projection of a block with a triangular prism on top. The front view shows a triangle inside a larger triangle. The top view shows a rectangle with a red rectangle inside. The isometric view shows the 3D object. Blue projection lines connect the views.

5.

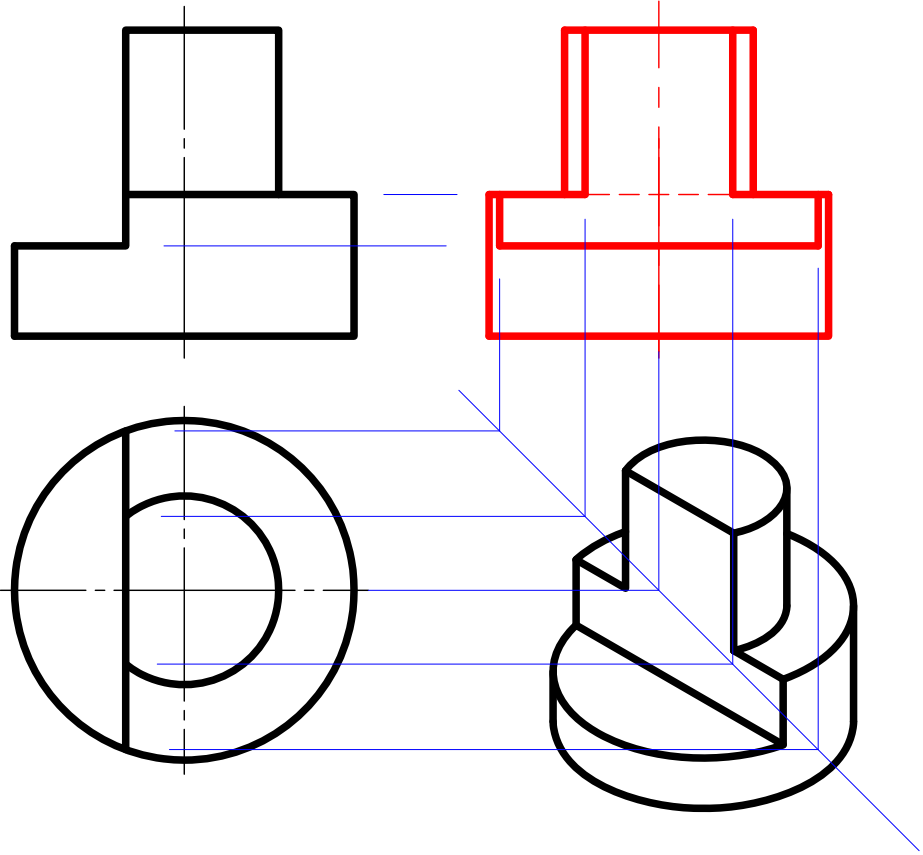
Orthographic projection of a block with a trapezoidal prism on top. The front view shows a trapezoid inside a larger trapezoid. The top view shows a diamond shape with a red diamond inside. The isometric view shows the 3D object. Blue projection lines connect the views.

6.

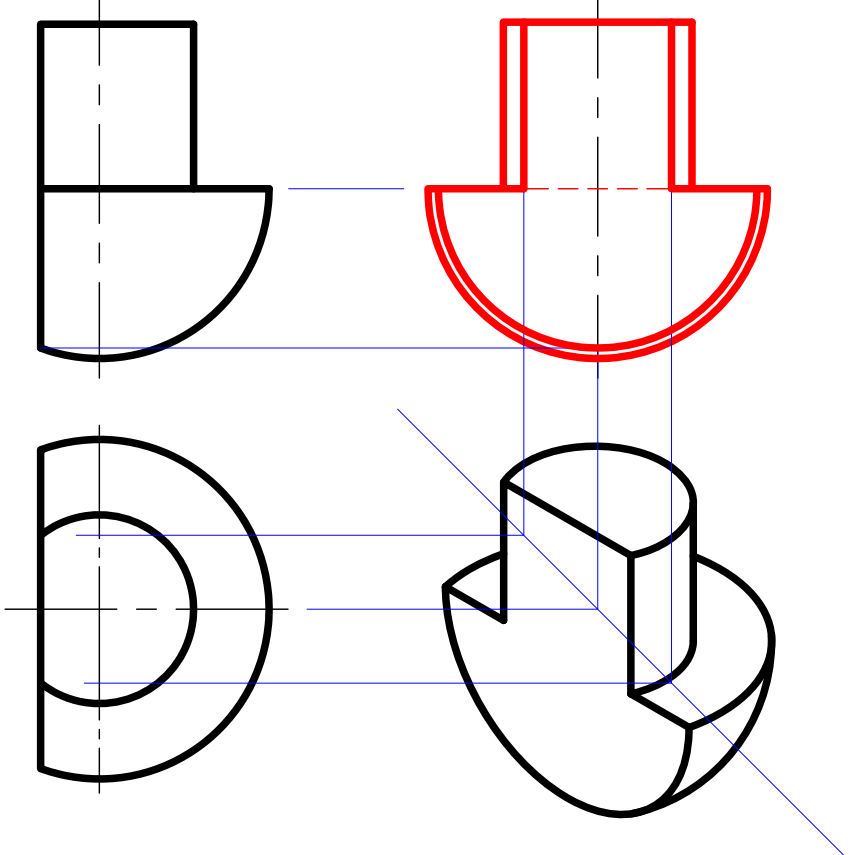
Orthographic projection of a block with a trapezoidal prism on top. The front view shows a trapezoid inside a larger trapezoid. The top view shows a rectangle with a red rectangle inside. The isometric view shows the 3D object. Blue projection lines connect the views.

分析曲面立体表面的交线，补画图中的漏线及第三视图（不可见的投影画虚线）

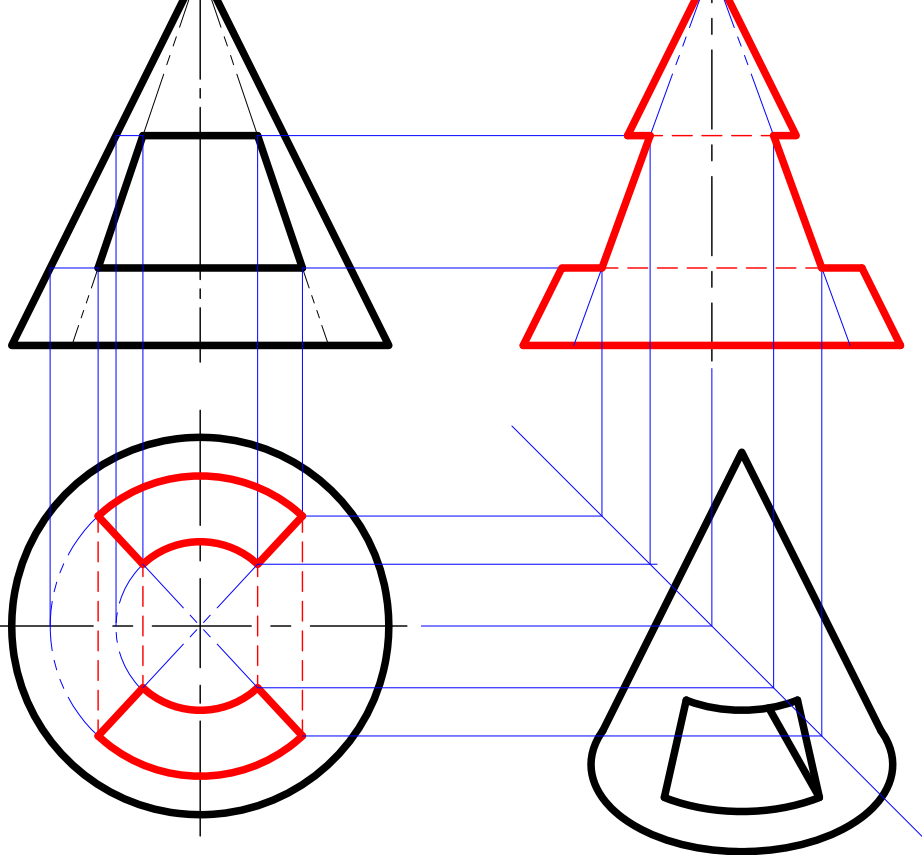
1.



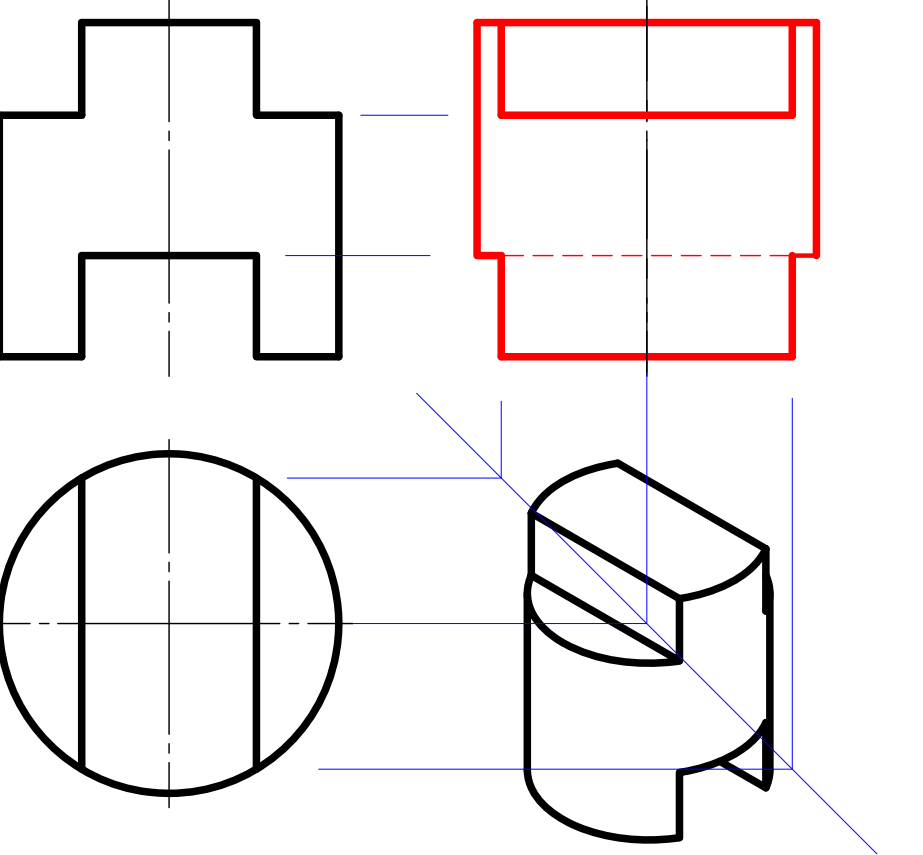
2.



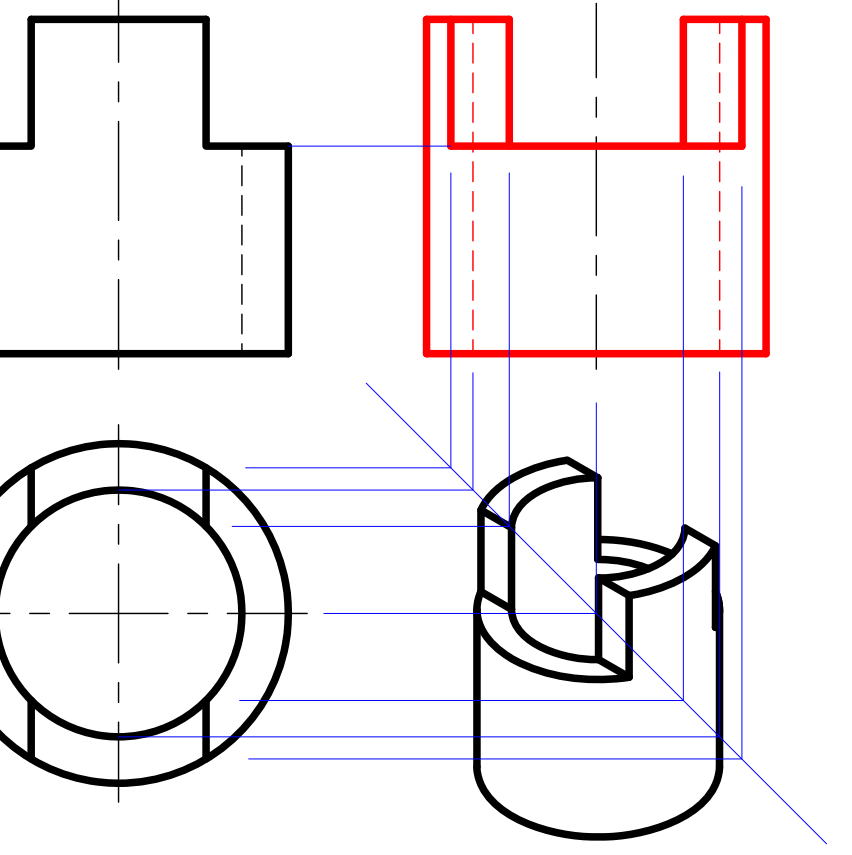
3.



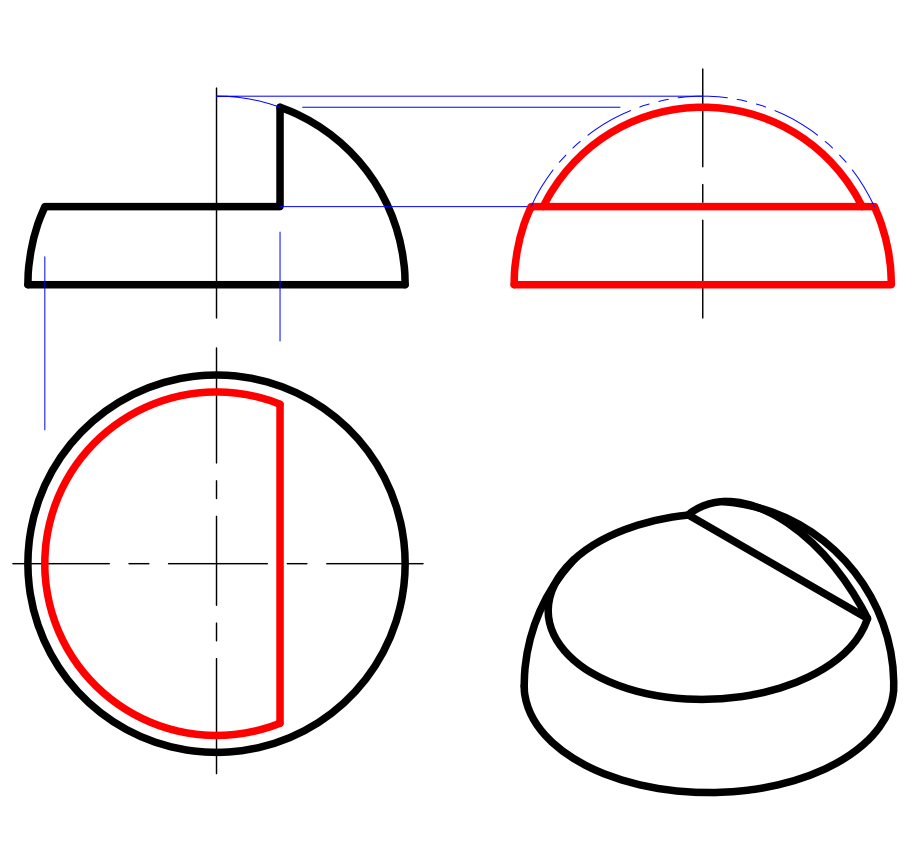
4.



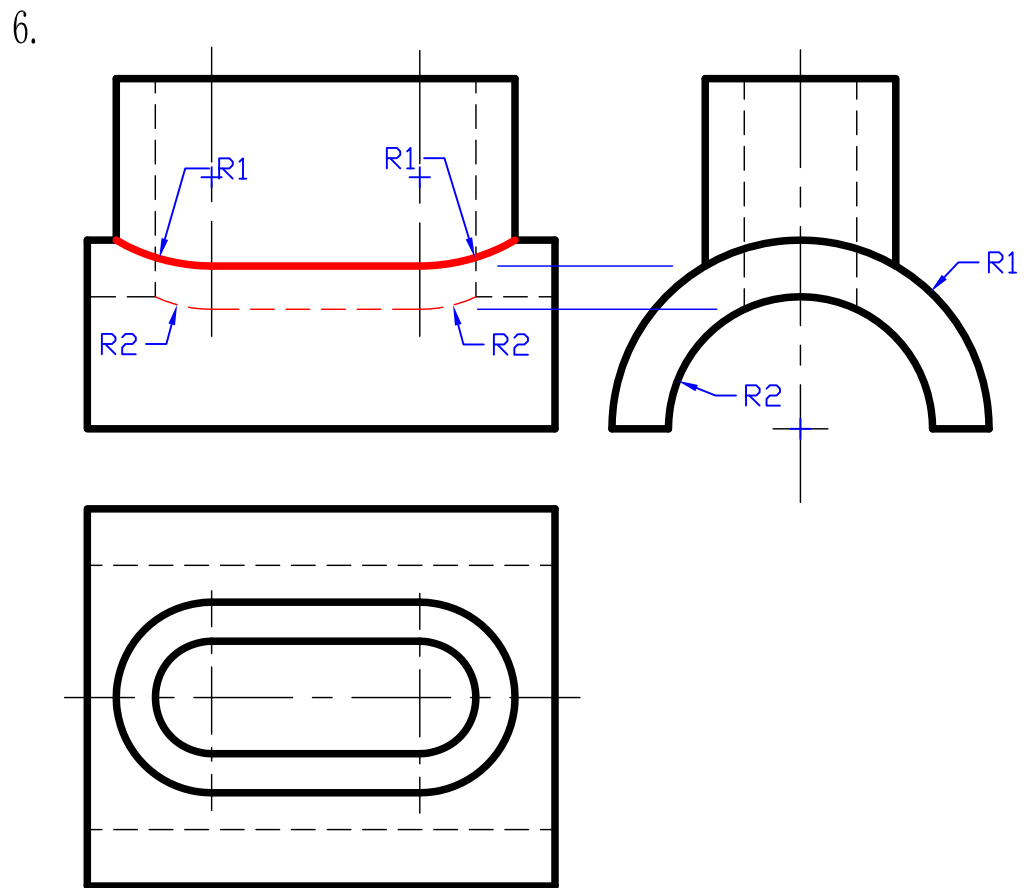
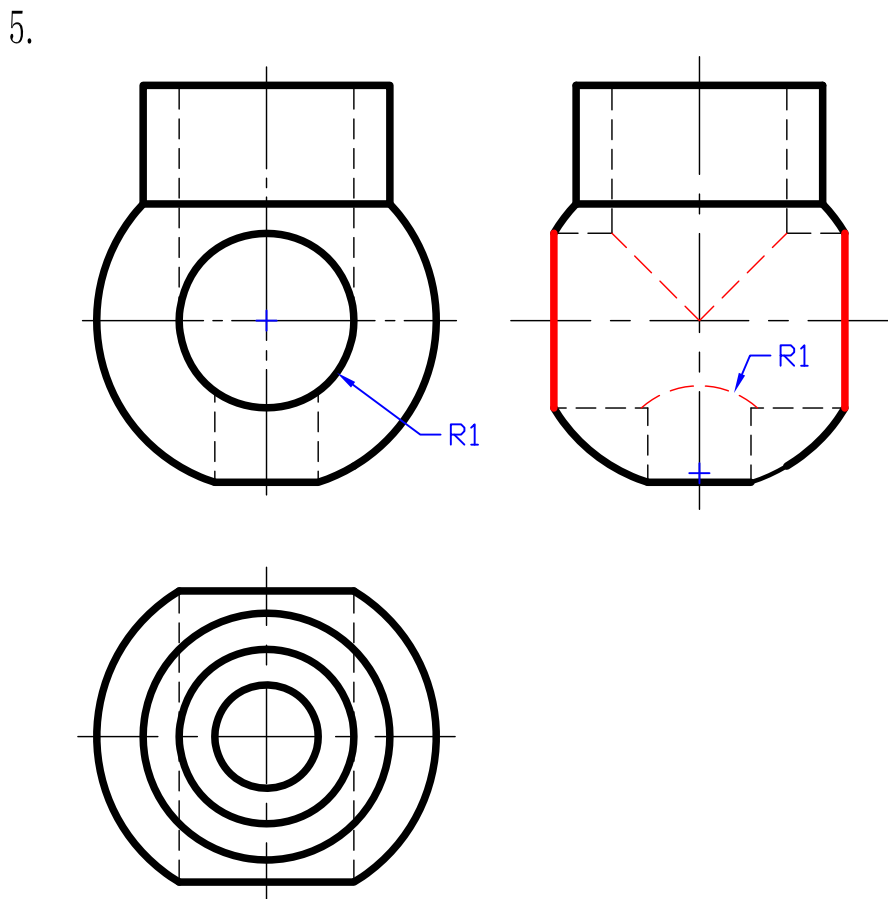
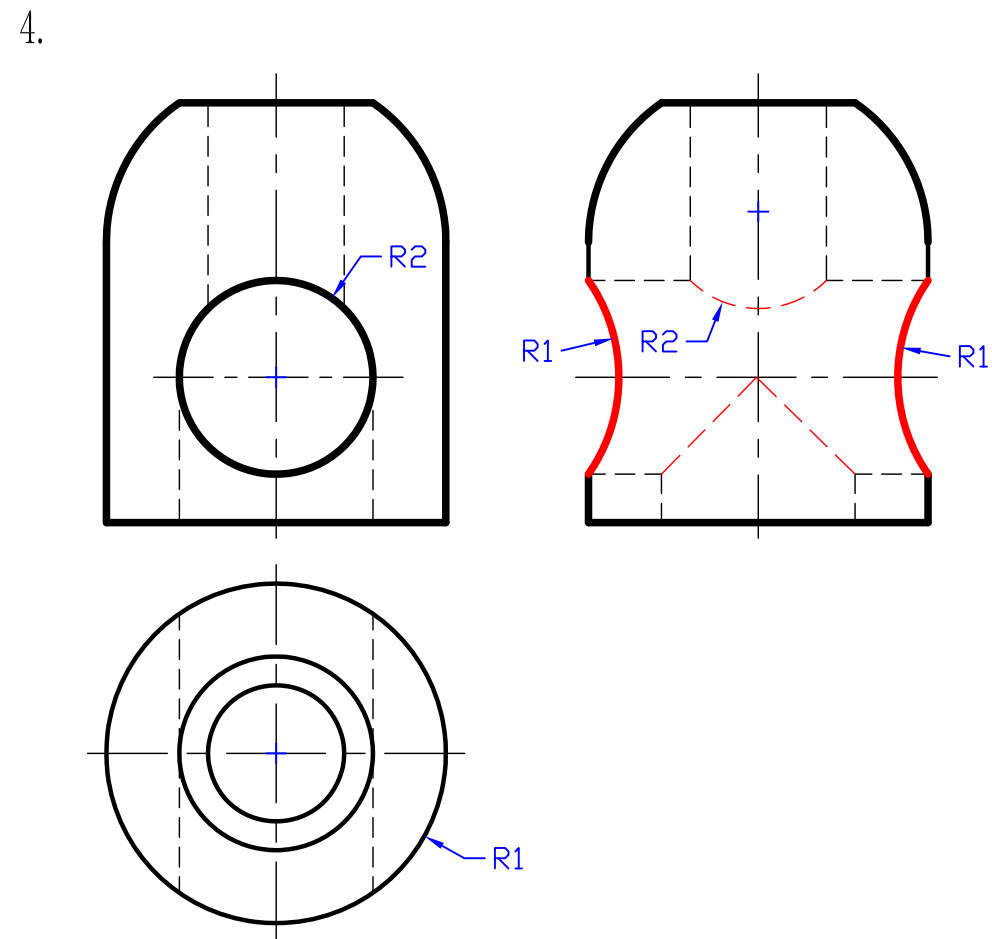
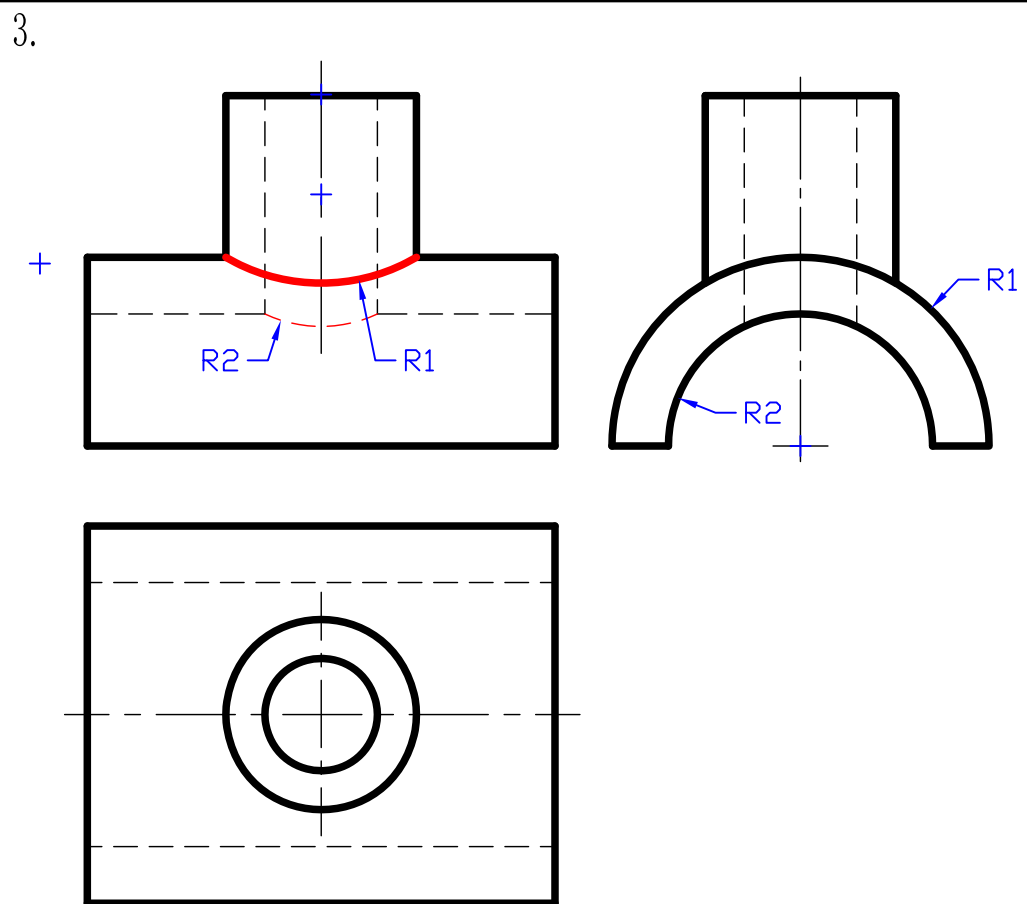
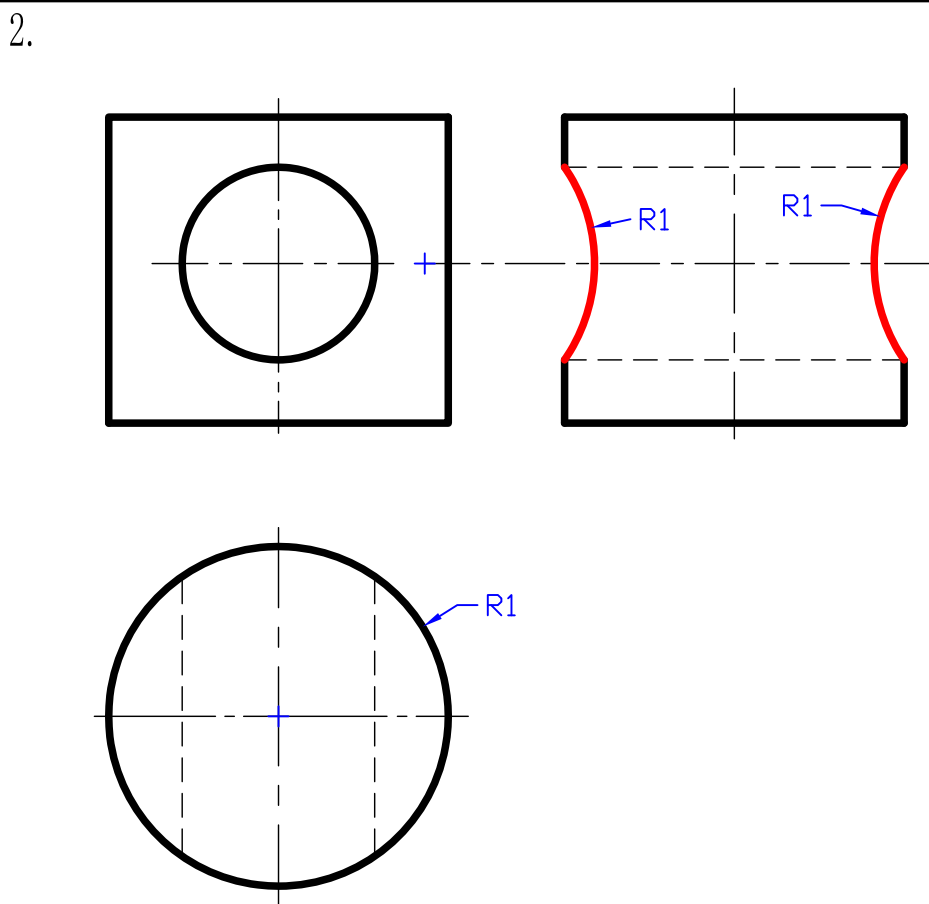
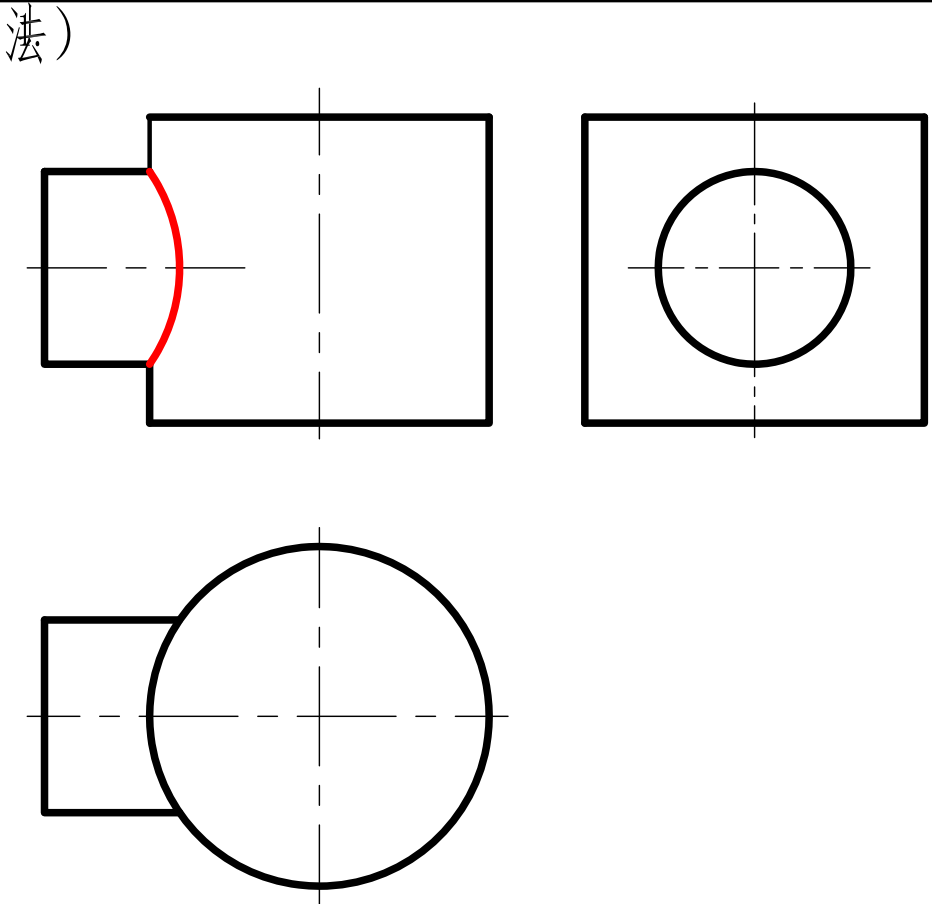
5.



6.



完成曲面立体表面相贯线的投影（第一题采用求相贯点的方法作图，其余采用相贯线的简化画法）



对照立体图检查三视图，补画图中所缺的投影线。

1.

Exercise 1 shows a three-view drawing of a trapezoidal block. The front view is a trapezoid with a dashed centerline. The top view is a rectangle with four vertical red lines. The side view is a rectangle with a horizontal red line. Blue projection lines connect the views.

2.

Exercise 2 shows a three-view drawing of a complex block. The front view is a trapezoid with a horizontal red line. The top view is a rectangle with a horizontal red line and two vertical red lines. The side view is a trapezoid with a horizontal red line. Blue projection lines connect the views.

3.

Exercise 3 shows a three-view drawing of a complex block. The front view is a trapezoid with a horizontal red line. The top view is a rectangle with a horizontal red line and two vertical red lines. The side view is a trapezoid with a horizontal red line. Blue projection lines connect the views.

4.

Exercise 4 shows a three-view drawing of a complex block. The front view is a rectangle with a horizontal red line and two vertical red lines. The top view is a rectangle with a horizontal red line and two vertical red lines. The side view is a rectangle with a horizontal red line. Blue projection lines connect the views.

5.

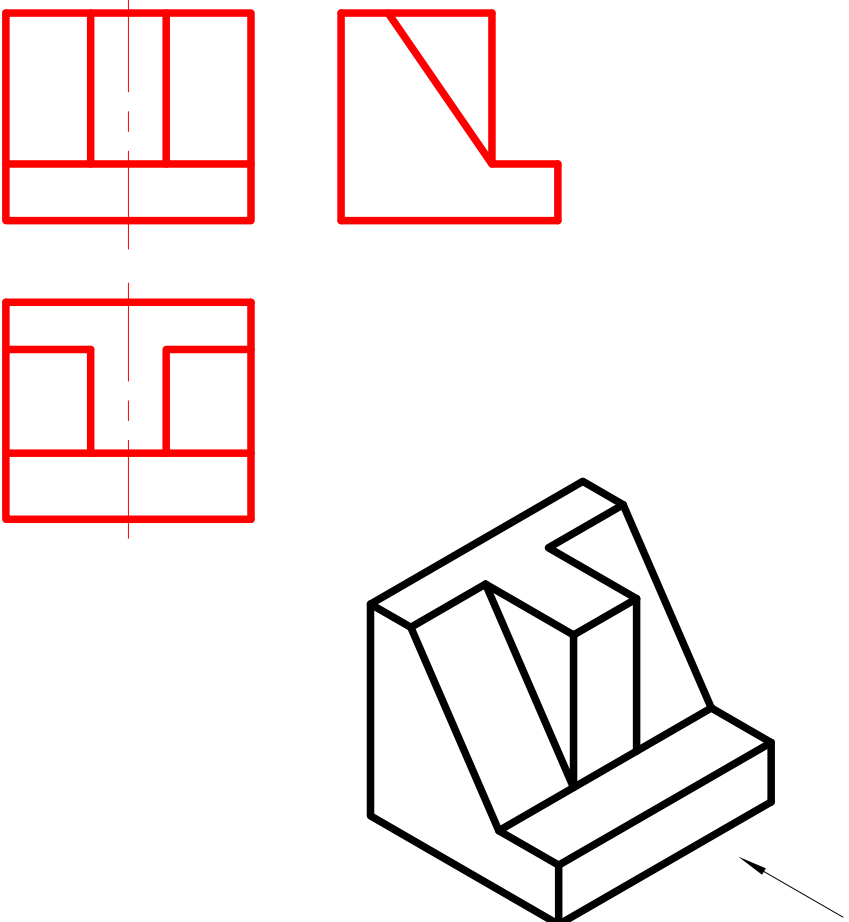
Exercise 5 shows a three-view drawing of a complex block. The front view is a rectangle with a horizontal red line and two vertical red lines. The top view is a rectangle with a horizontal red line and two vertical red lines. The side view is a rectangle with a horizontal red line. Blue projection lines connect the views.

6.

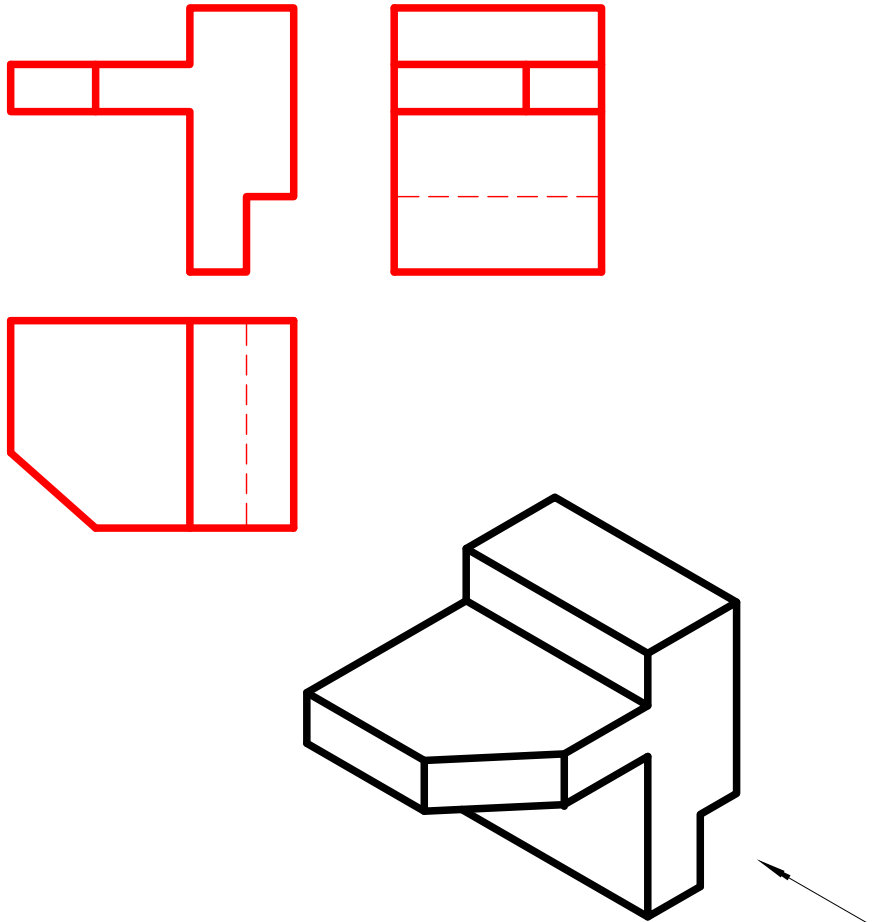
Exercise 6 shows a three-view drawing of a complex block. The front view is a rectangle with a horizontal red line and two vertical red lines. The top view is a rectangle with a horizontal red line and two vertical red lines. The side view is a rectangle with a horizontal red line. Blue projection lines connect the views.

根据立体图画三视图（尺寸按1：1在立体图上直接量取并取整，箭头所指为主视图方向）。

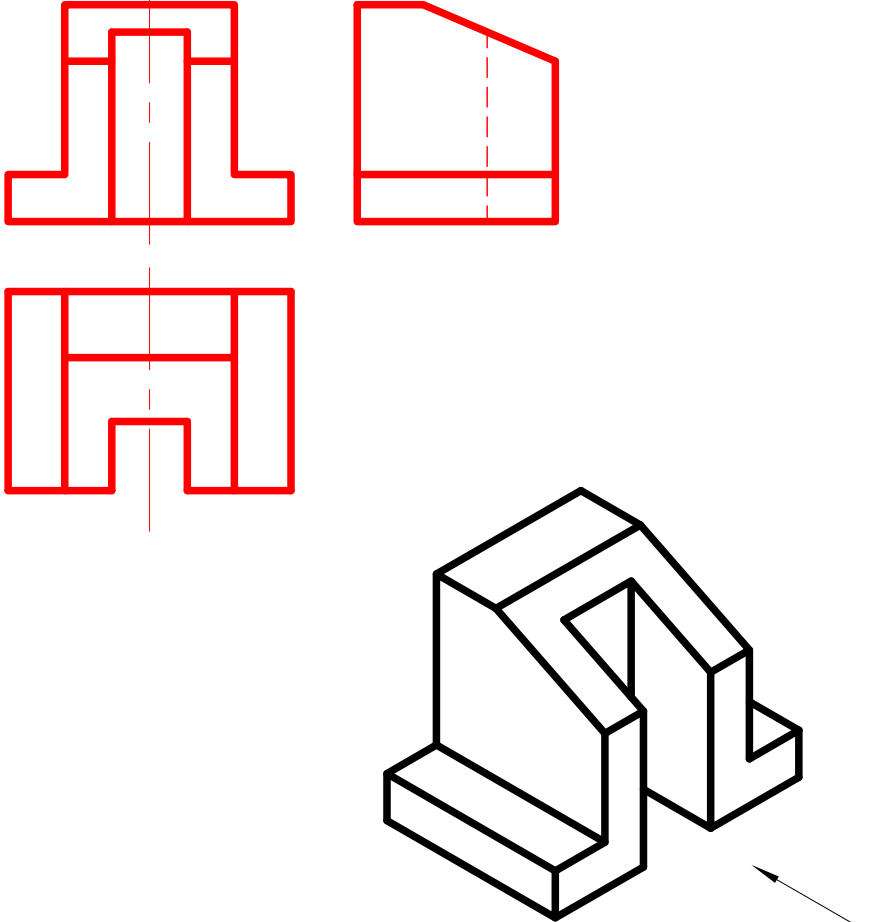
1.



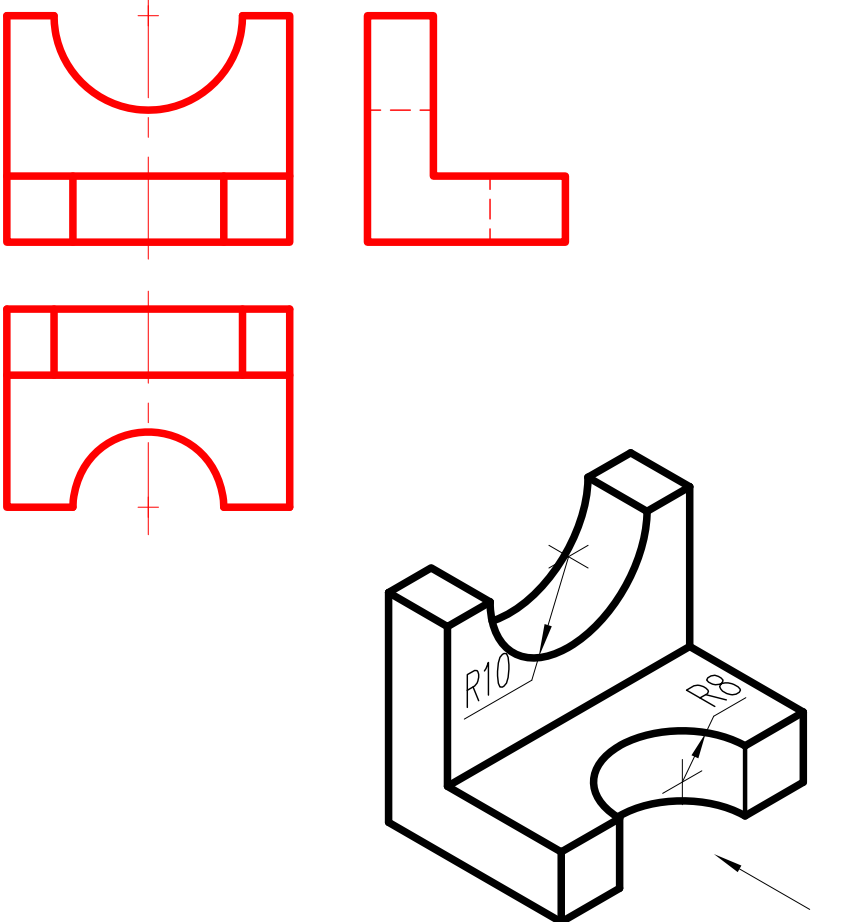
2.



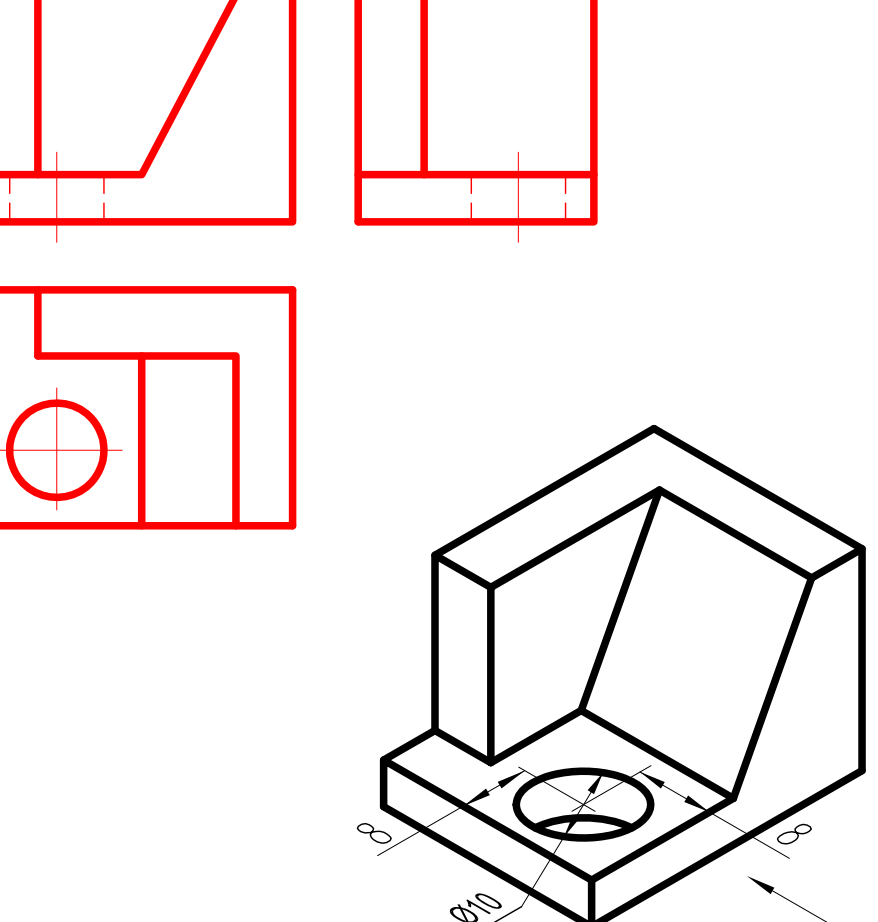
3.



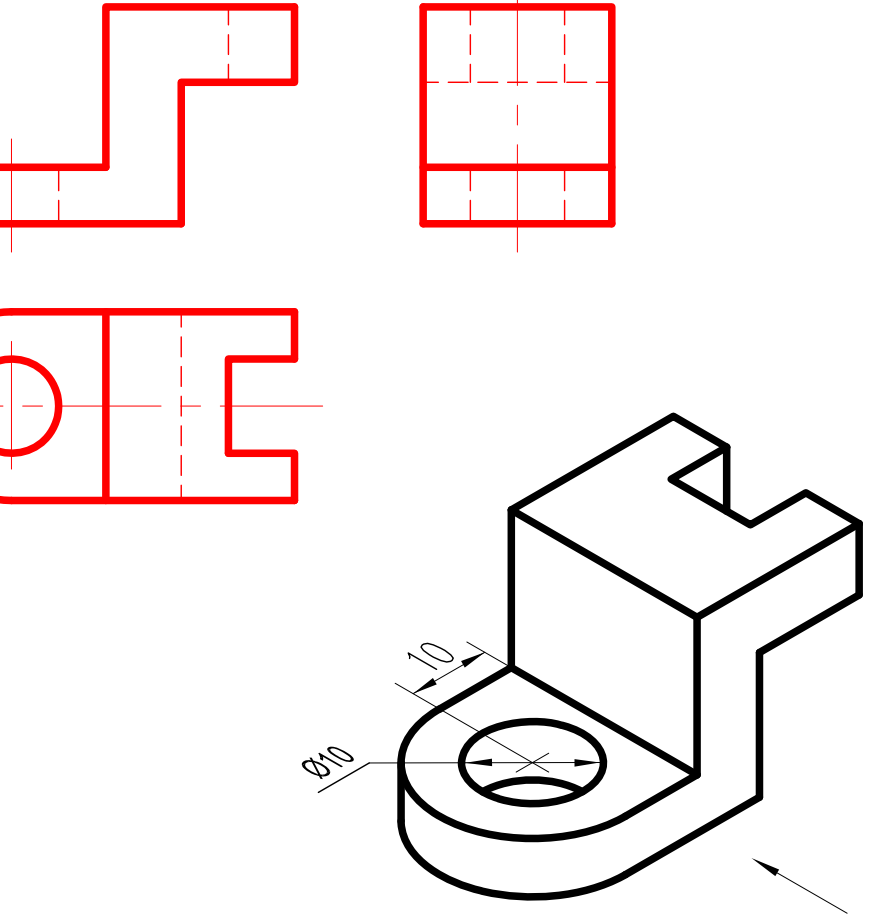
4.



5.



6.



已知两视图求第三视图

1.

Top view: A rectangle with a circle on the left and a smaller rectangle on the right. Front view: A stepped profile with a semi-circular cutout on the right side. Third view (left side view): A stepped profile with a semi-circular cutout on the right side, drawn in red.

2.

Top view: A rectangle with a circle on the left and a smaller rectangle on the right. Front view: A stepped profile with a semi-circular cutout on the right side. Third view (left side view): A stepped profile with a semi-circular cutout on the right side, drawn in red.

3.

Top view: A rectangle with a circle on the left and a smaller rectangle on the right. Front view: A stepped profile with a semi-circular cutout on the right side. Third view (left side view): A stepped profile with a semi-circular cutout on the right side, drawn in red.

4.

Top view: A rectangle with a circle on the left and a smaller rectangle on the right. Front view: A stepped profile with a semi-circular cutout on the right side. Third view (left side view): A stepped profile with a semi-circular cutout on the right side, drawn in red.

5.

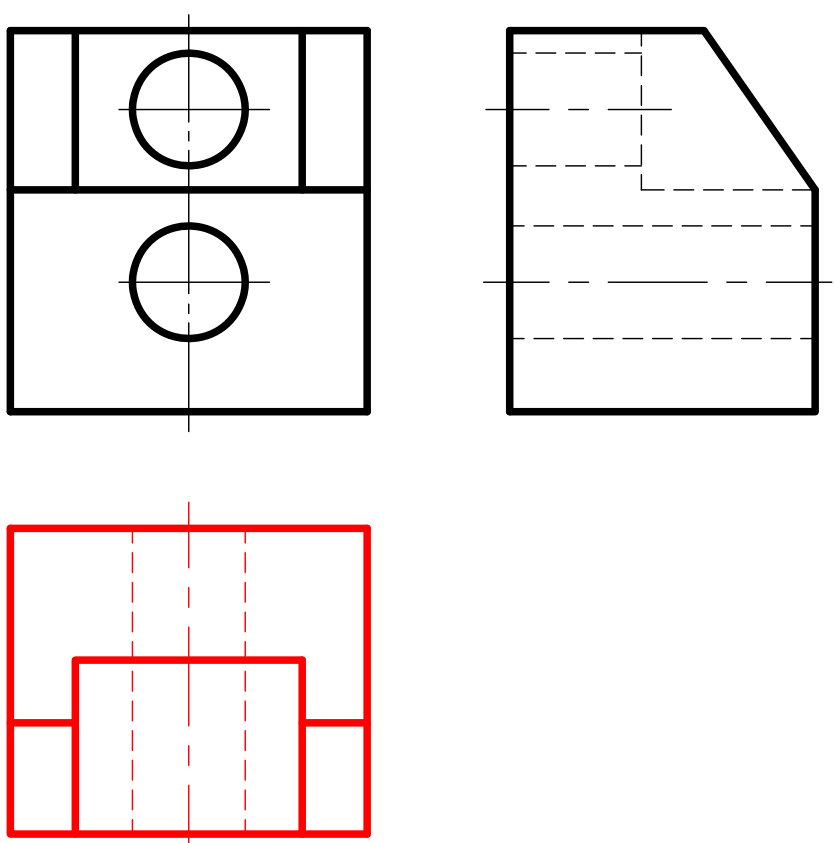
Top view: A rectangle with a circle on the left and a smaller rectangle on the right. Front view: A stepped profile with a semi-circular cutout on the right side. Third view (left side view): A stepped profile with a semi-circular cutout on the right side, drawn in red.

6.

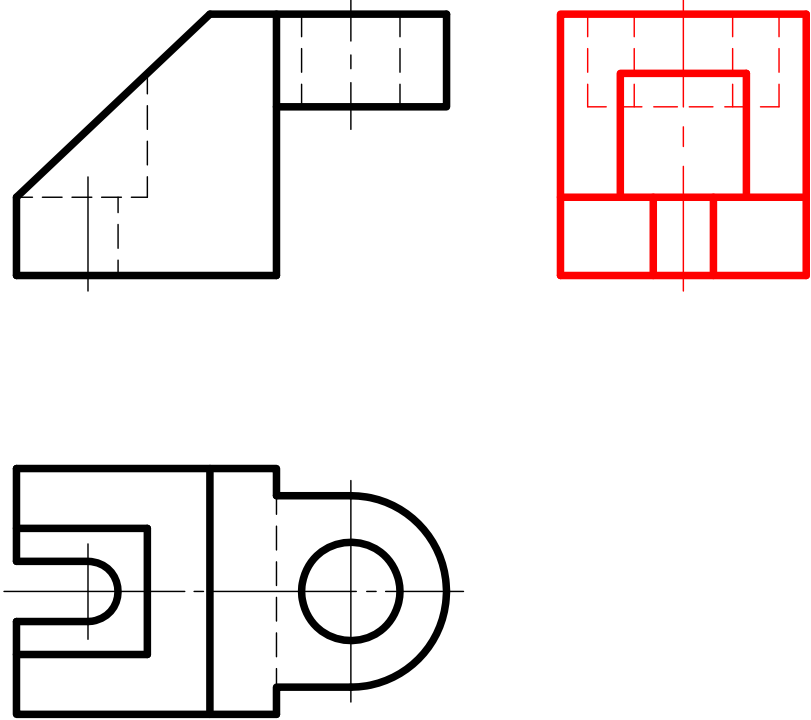
Top view: A rectangle with a circle on the left and a smaller rectangle on the right. Front view: A stepped profile with a semi-circular cutout on the right side. Third view (left side view): A stepped profile with a semi-circular cutout on the right side, drawn in red.

已知两视图求第三视图

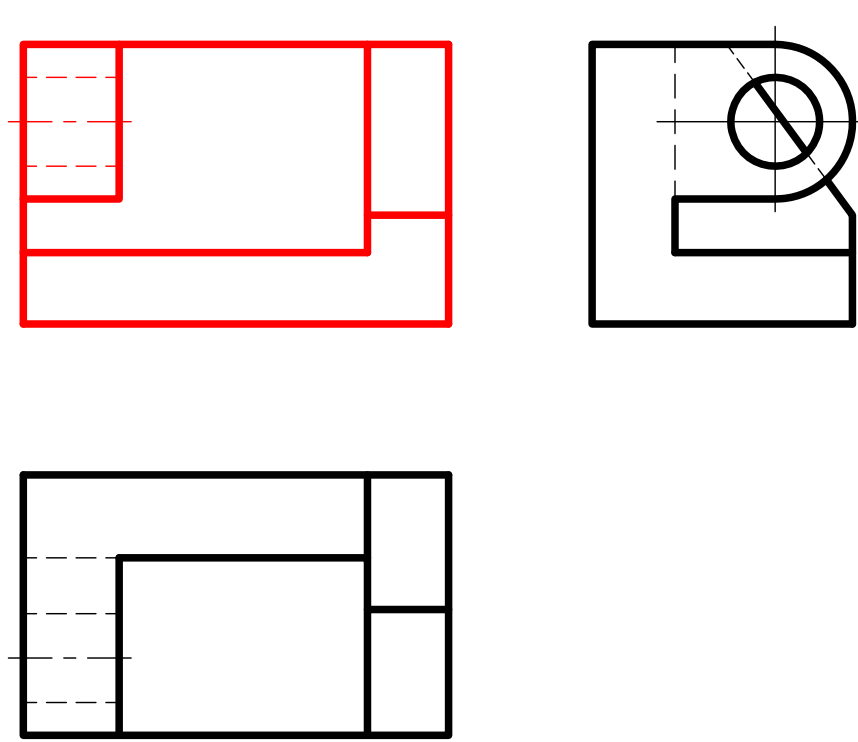
1.



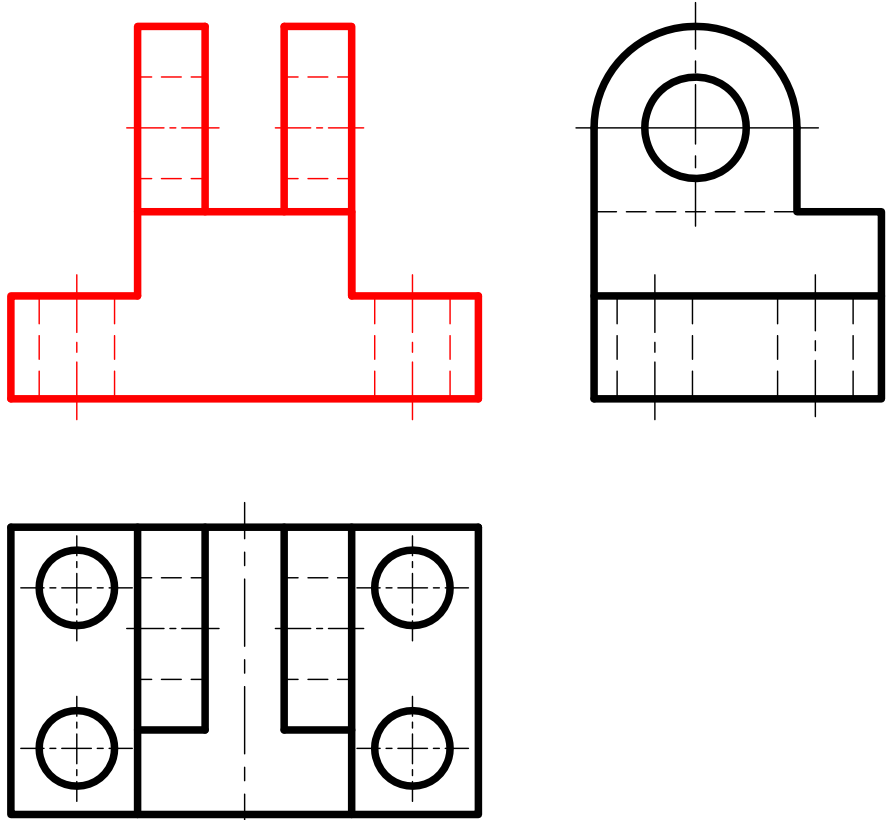
2.



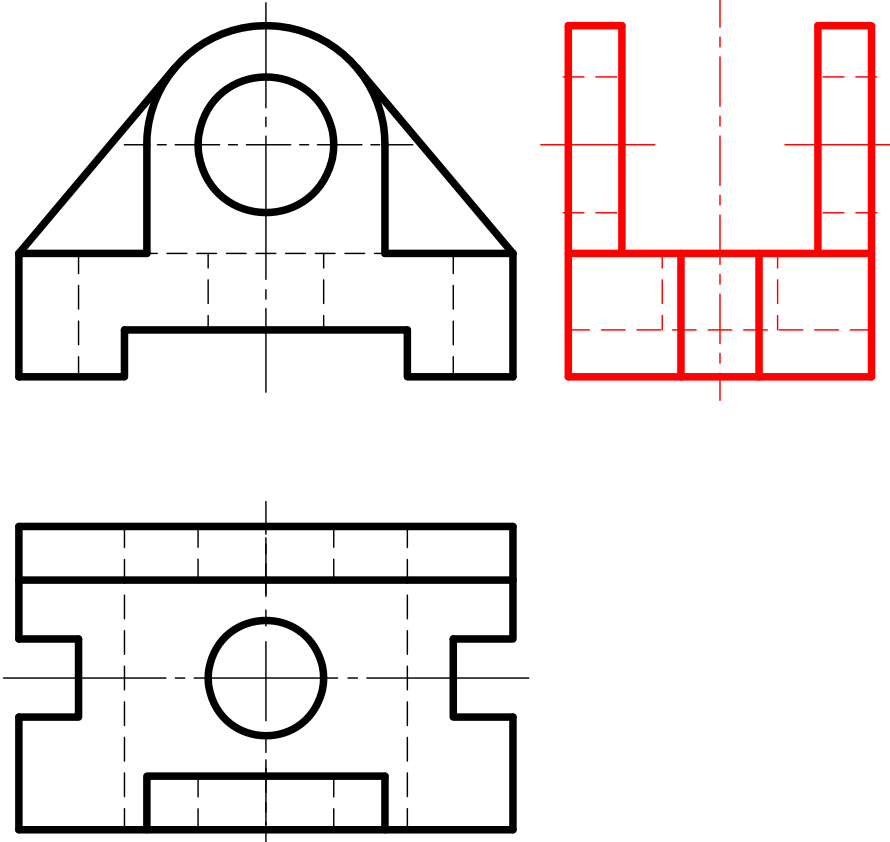
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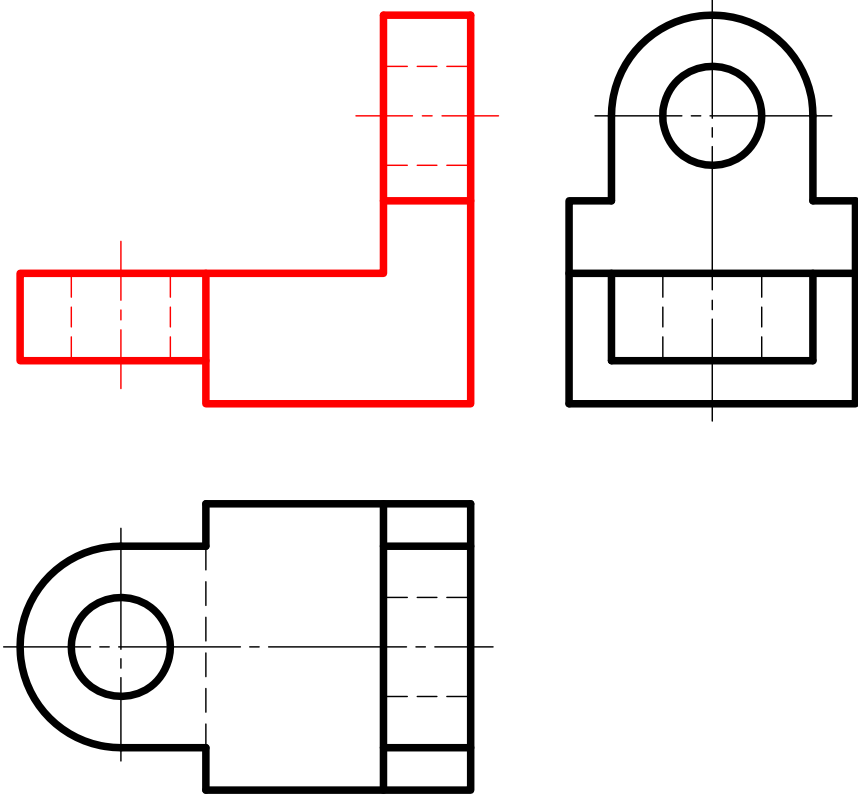
4.



5.

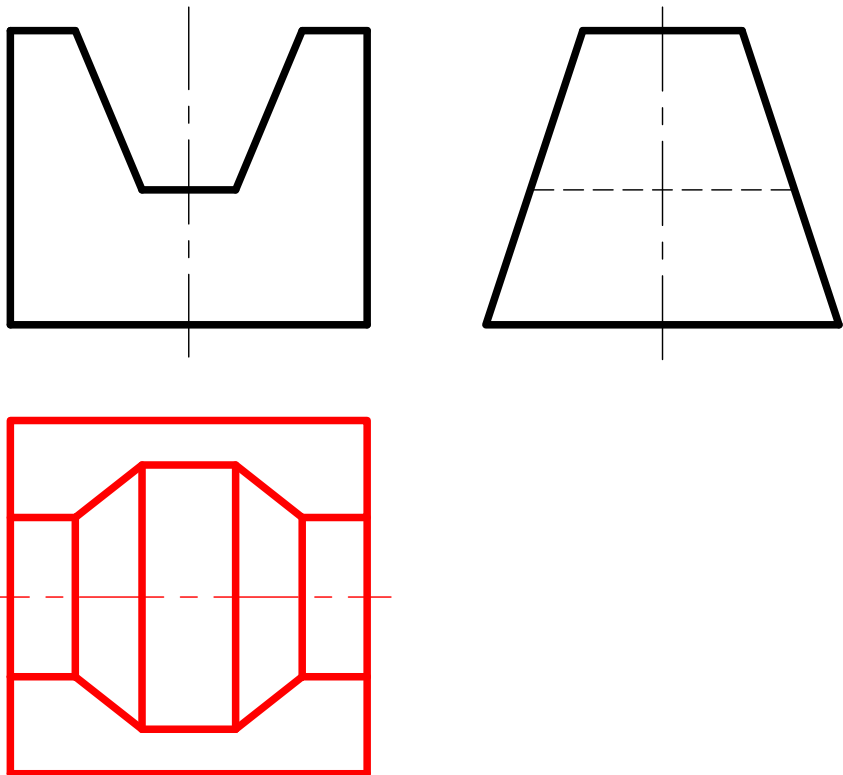


6.

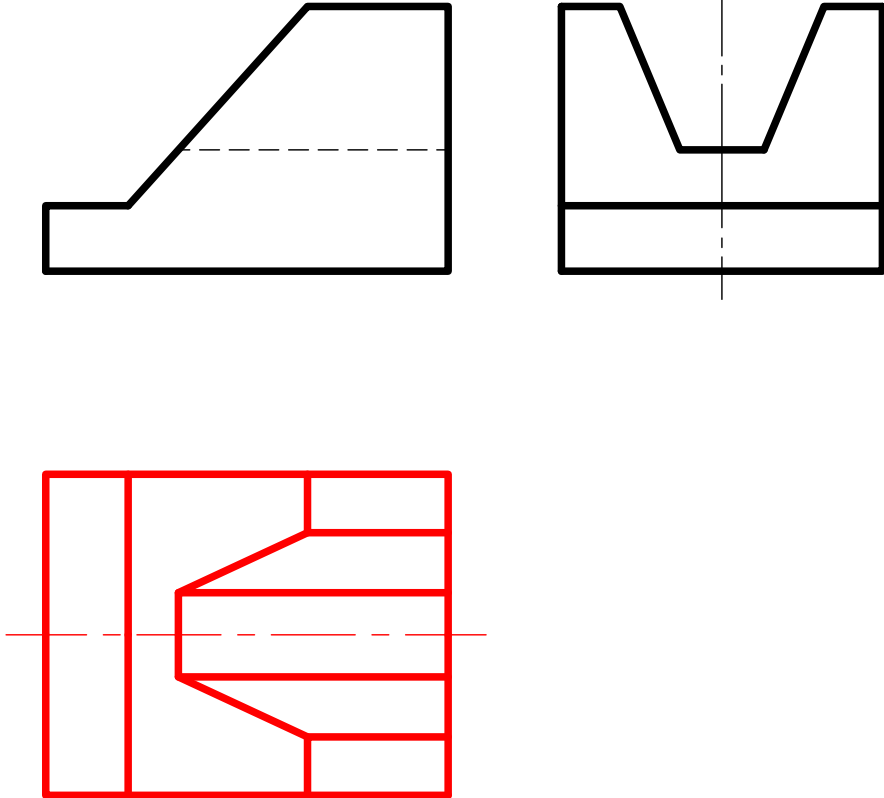


已知两视图求第三视图

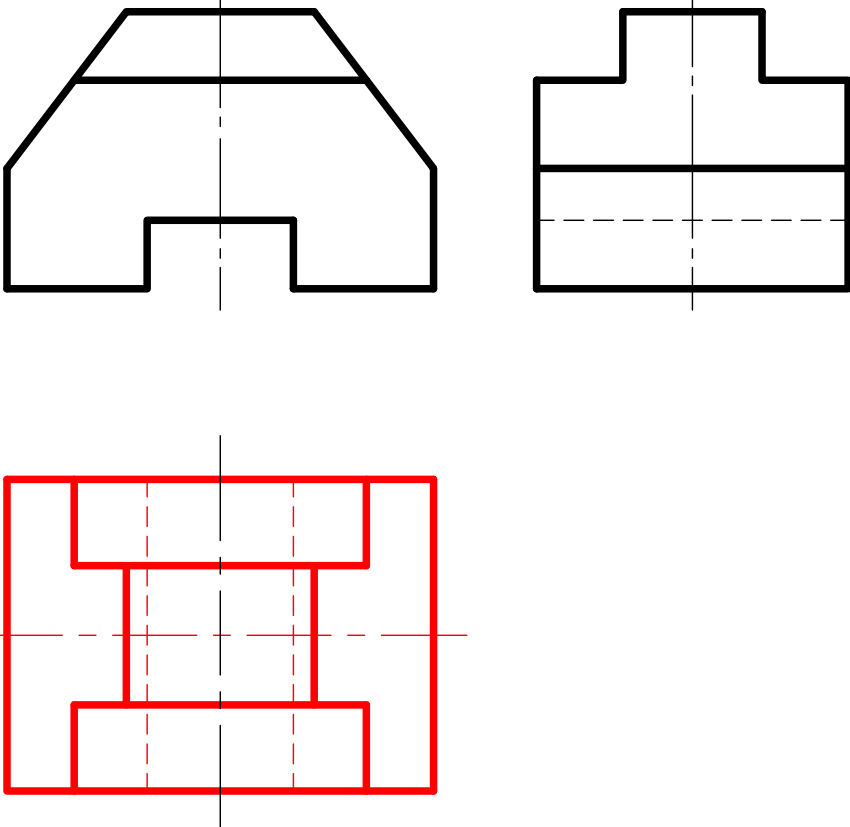
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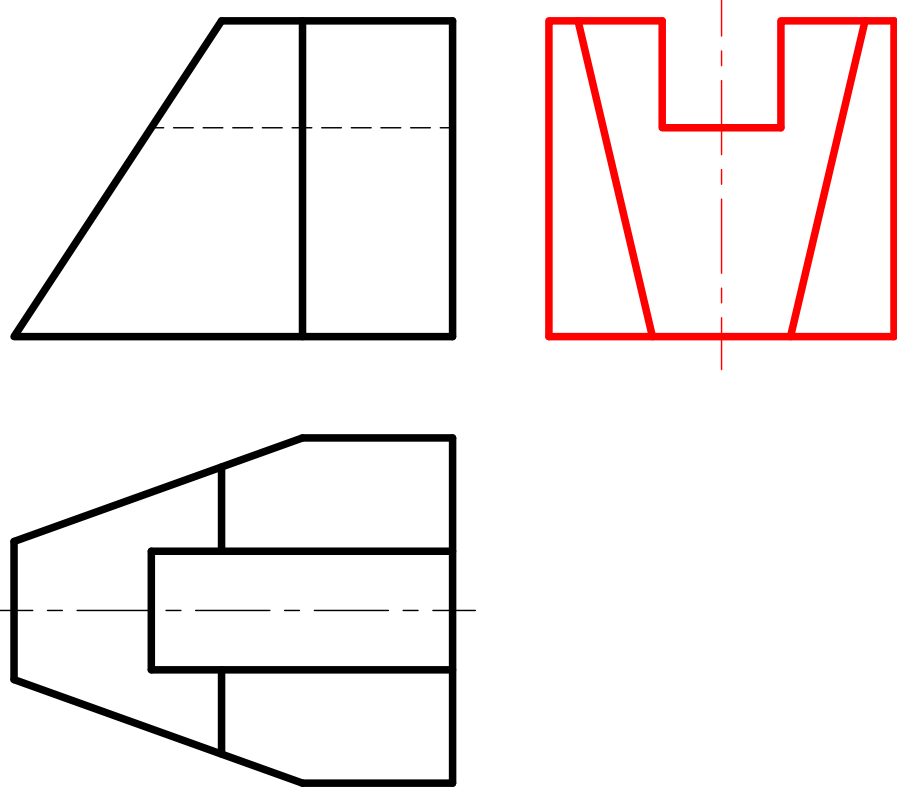
2.



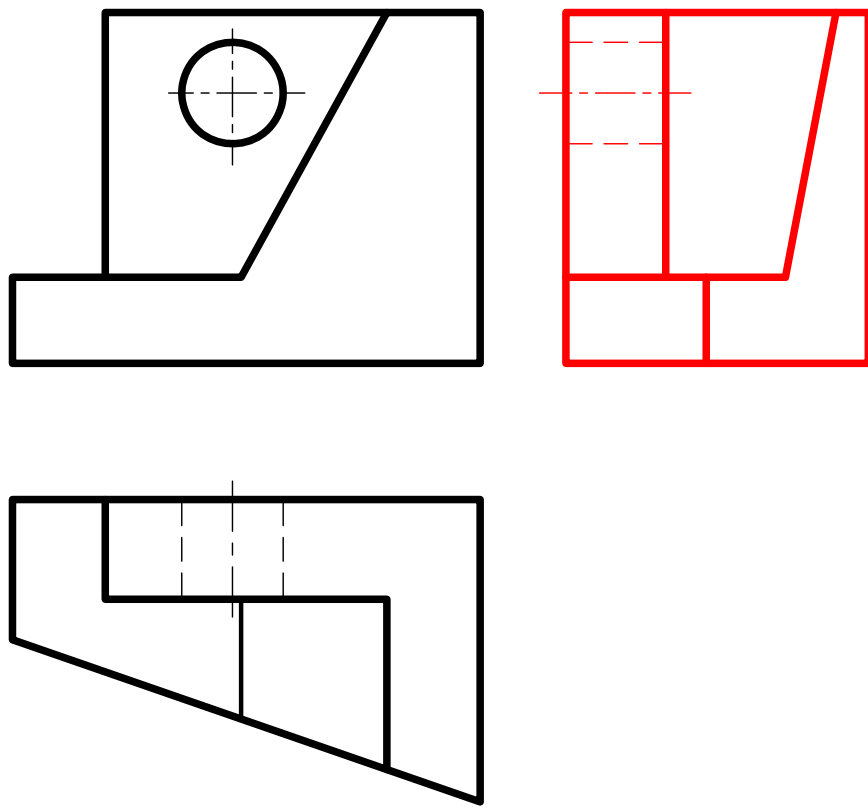
3.



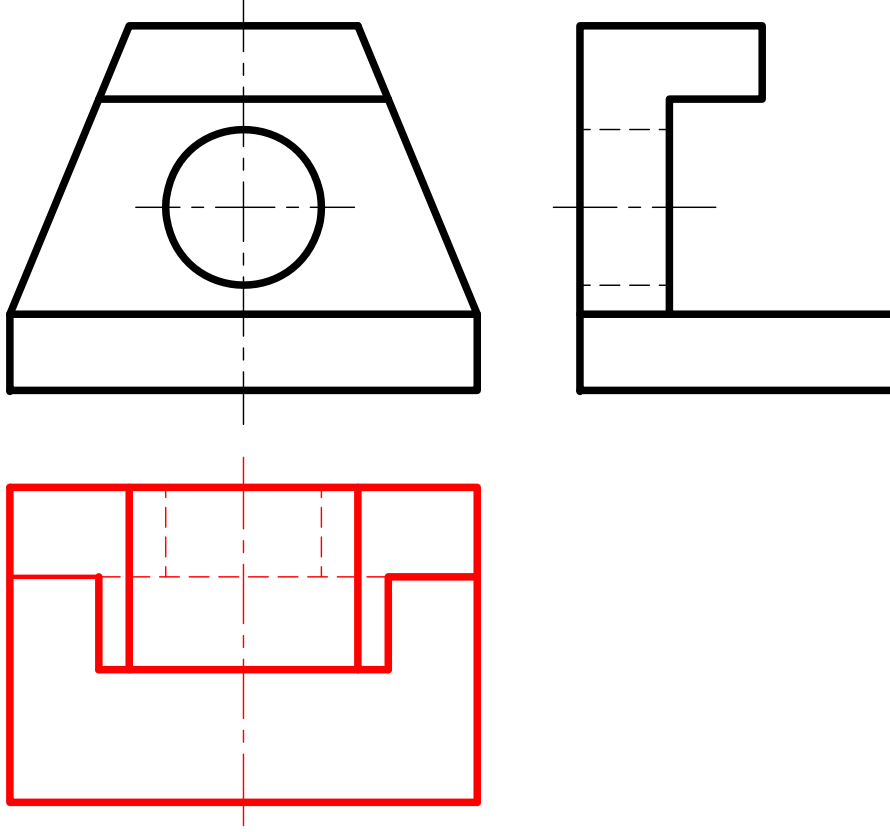
4.



5.



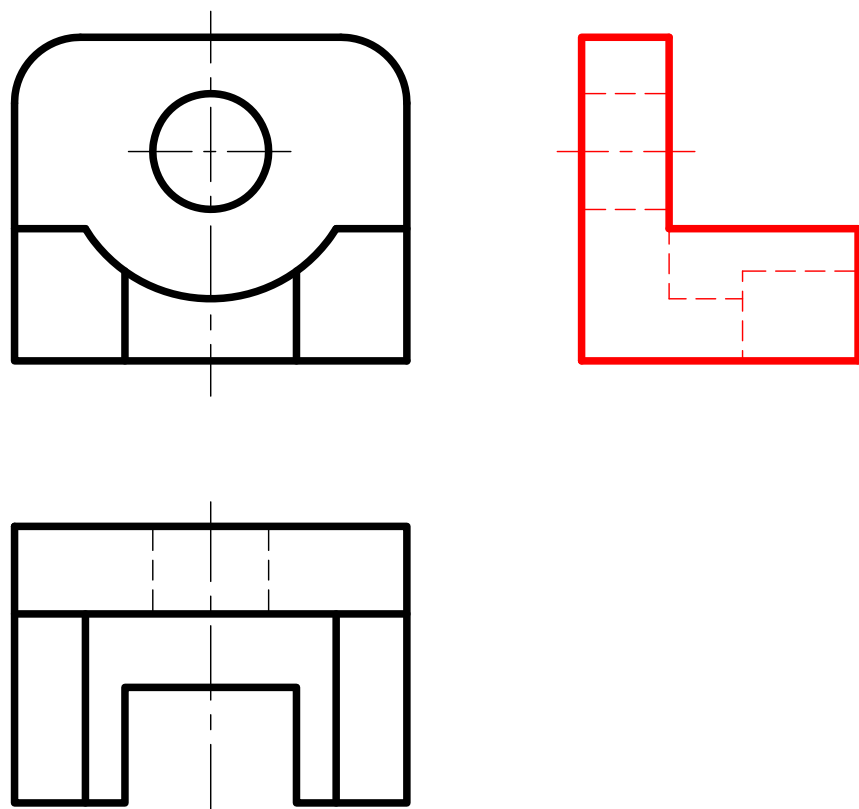
6.



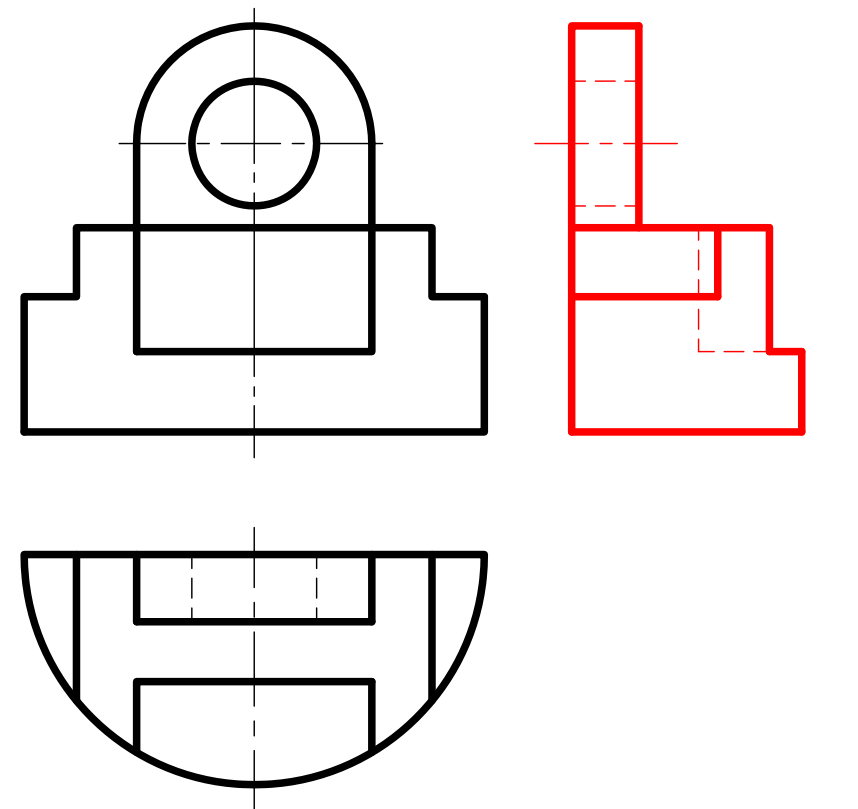


已知两视图求第三视图

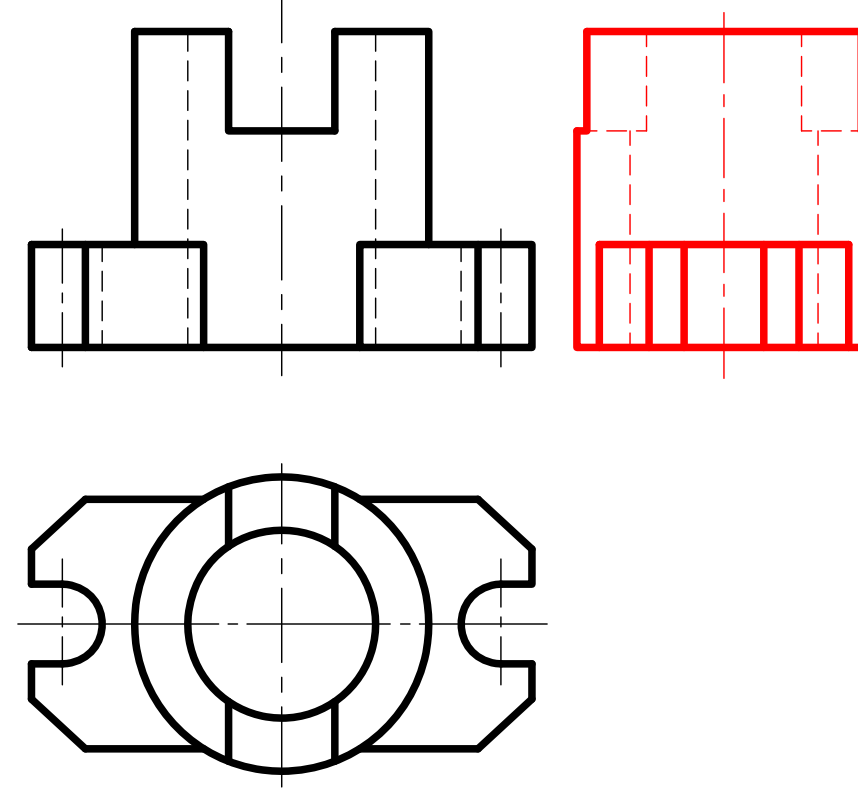
1.



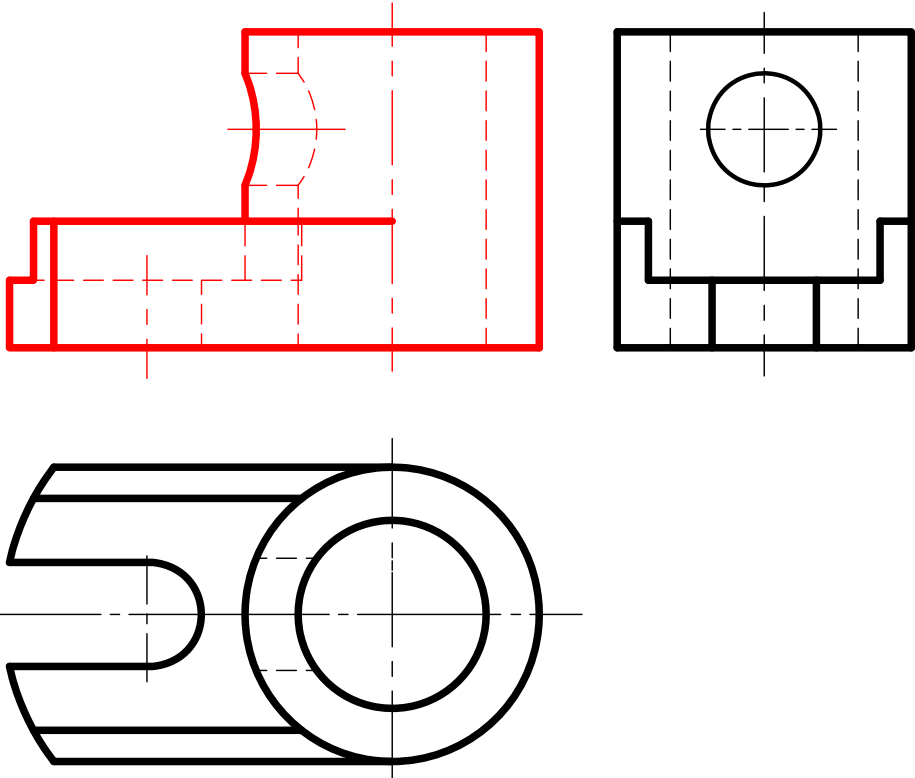
2.



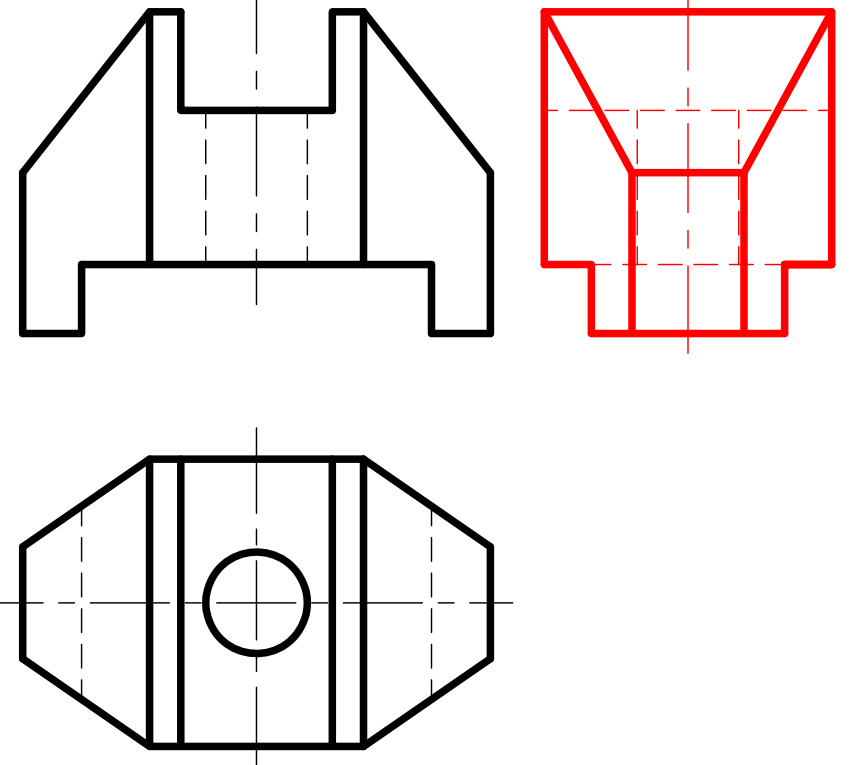
3.



4.



5.



6.

