Sample test examples

1. In MP construct related views of the square ***ABCD*** lying in the plane ***α*(-80;60;75).** The vertex ***A*[40,?,60]** and the centre ***S*[10,40,?]** of the square are given.

2. In MP construct related views of the circle ***k*(*S*; *A*)**, lying in the plane ***α*(65; 50; 60)**, the centre of the circle ***S*[-20,30,?]**; ***A*[-20,50,?]**.

3. In MP construct related views of the equilateral triangle ***ABC*** lying in the plane ***α*(-80;60;75).** The vertices ***A*[40,?,60]**; ***B*[0,60,?]** are given. Find the solution which satisfy $\mathbf{y_A < y_C}$.

4. In MP construct related views of the circle ***k*(*S*, *t*).** The centre of the circle ***S*[0, 40, 30]** and its tangent ***t* =(*P*[−10, 70, 0], *N*[90, 0, 40])** are given.

5. In MP construct related views of the circle ***k*(*K*, *L*)** lying in the plane α **(55, 60, 40)** where ***KL*** is the circle diameter.

6. In MP construct related views of the square ***ABCD.*** The vertex ***A* [10,75,20]** is given and the diagonal of the square lies on the straight line ***PM, P*[60,60,0], *M*[-40,30,80]**.

7. In MP determine the distance of the point ***A*[15,30,20]** from the plane ***α*(-70;70;80)**.

8. In MP determine the distance of the point ***D*[10,20,25]** from the straight line ***d* =*P*[-50,10,0]; *Q*[40,65,70].**

9. In MP the point ***M*[40;90;60]** and the plane ***α*=(*B*,*a*), *a*=(*P*[30;35;0], *N*[−5;0;80]), *B*[10;35;20]** are given. Construct the point ***R*** which is a perpedicular view of the point ***M*** in the plane ***α.***

10. In MP find the projections of a regular hexagonal pyramid given by the axis ***o*(*M*[-40;15;30], *N*[5;45;45])**, the vertex ***A*[0;0;30]** of the base and the height ***v* = *40***. Find the solution which satisfy $\mathbf{z_A < z_V}$.

11. In MP construct a rotate cylinder with its base lying in a given plane ***ρ*(-30,40,50)**, a center of the base ***S*[30,40,?]** lying in the plane *ρ* and a point ***Q´*[-50,75,65]** lying on a circle of the second base.

12. In MP construct a right circular cone given by the axis ***o*(*P*,*Q*)**, the point ***E*[20,35,50]** of the base and the height **v = 60**; ***P*[40,50,0], *Q*[-50,60,80]**.

13. In MP construct a regular quadrilateral prism given by the vertex ***A*[10,75,20]** of the base and the diagonal of the square lies on the straight line ***PM, P*[60,60,0], *M*[-40,30,80]**, the height ***v* = 80**.

14. In MP construct a regular quadrilateral prism with its base ***ABCD*** lying in a given plane ***α*(55,70,45)**, a center of the base ***S*[0,30,?]** lying in the plane ***α*** and a point ***E*[25,75,85]** of the second base.

15. In MP construct a rotate cylinder with its base lying in a given plane ***α*** **(55, 60, 40)** where ***KL*** is the circle diameter of the base ***k*** and the height ***v* = 60**; ***K*[0, ?, 40], *L*[-20, 50, ?]**.

16. In MP construct a cube with its base ***ABCD*** lying in a given plane ***α* (55, 60, 40)** and the diagonal ***AC*** of the base is given ***A*[0, ?, 40], *C*[-20, 50, ?].**

17. In MP find the projections of a regular quadrilateral prism given by the axis ***o*(*P*,*Q*)**, ***P*[40, 50, 0], *Q*[-60, 80, 80]**, the vertex ***A*[20, 40, 50]** of the base and the height ***v* = 70.**

18. In MP construct a regular quadrilateral pyramid with its base lying in a given plane ***α* (50, 60, 50)**, the vertex ***A*[10, 30, ?]** of the base and the main vertex ***V*[40, 90, 80]**.

19. In MP construct the section of a regular oblique triangular prism by the plane ***α* (70, 45, 30)**. The base ***ABC*** of the solid lies in the horizontal plane. The centre of the lower base is ***S*[-50, 50, 0]**, the vertex of the lower base is ***A*[-20, 30, 0]** and the axis of the solid is ***SS'*, *S'* [40, 80, 90].**

20. In MP construct the section of a skewed(oblique) prism by the plane ***ρ*(40; 50; 40)**. The base of the prism is a square ***ABCD*** lying on the horizontal plane. There are given points of the base ***A*[-40; 50; 0]; *B*[-30; 20; 0]** and the centre of the upper base ***S'* [0; 70; 80].** Find the solution which satisfy $y_C < y_B$.

21. In MP construct the section of a oblique prismatic surface by the plane ***ρ*(90;110;30)**. The base of the surface is a square ***ABCD*** lying on the horizontal plane. The center of the square is ***S*[-20;35;0]**; the vertex of the base is ***A*[-40;60;0]** and the point ***A´* [50;90;70]** is the point of side edge ***AA´***. Determine the real size of the section.

22. In MP construct the section of a regular hexagonal pyramid by the plane ***ρ*(80;100;30)**. The base ***ABCDEF*** is lying on the horizontal plane. The point ***A*[-20;60;0]** is the vertex of the base and the point ***V*[0;40;50]** is the main vertex.

23. In MP construct the section of an oblique hexagonal prism by the plane ***ρ*(50; 90; 60).** The base ***ABCDEF*** is lying on the horizontal plane. The center of the base is ***S*[-50;40;0]**; the vertex of the base is ***A*[-50;10;0]** and the point ***A´* [50;40;80]** is the point of upper base.

24. In MP construct the section of a oblique pyramid by the plane ***ρ*(75; 90; 35).** The base of the pyramid is a square ***ABCD*** lying on the horizontal plane. The center of the square is ***S*[-20;50;0]**; the point ***A*[-30;20;0]** is the vertex of the base and the point ***V*[50;40;80]** is the main vertex.