



A STRAIGHT LINE PARALLEL TO THE PLANE. PARALLEL PLANES.

Tashkent state transport university

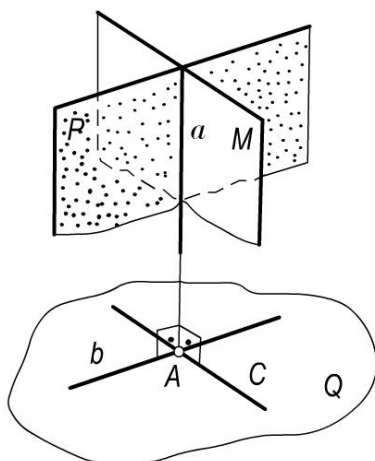
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Annotasiya. Will perpendicularly of the planet to the straight line. Mutually perpendicular planet. The straight line between the two and determine the means and planet planet. A straight line which is perpendicular to the plane passing through you at any given second, this plane is mutual perpendicular. The angle between the straight line and the plane, as this is the angle between a straight line of a given projective plane I ortogonal. The angle between the two-plane angle between two straight lines that are perpendicular to the line of their intersection with a linear measure.

Key words: *a straight line perpendicular to the planet in a mutually perpendicular planet, the straight line between the means and the planet.*

Definition. A straight line which is perpendicular to the plane passing through you at any given second, this **mutual perpedikulyar plane** is.



From this definition, the following conclusions you can come to the appropriate line on any plane that is perpendicular to that plane itself is perpendicular to this plane (1-picture).

Therefore, the plane that is perpendicular to each other made the two methods can be done with:

- Perpedikulyar held to the plains from a straight line to the plane

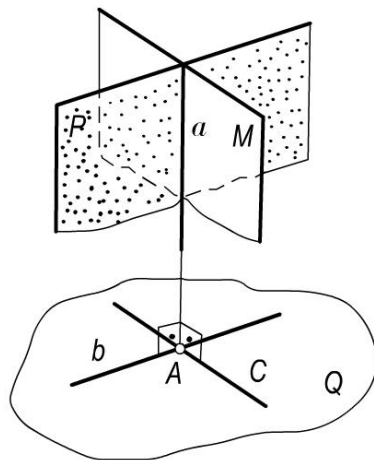


- Perpedikulyar plane transfer to the appropriate line on to the plains.

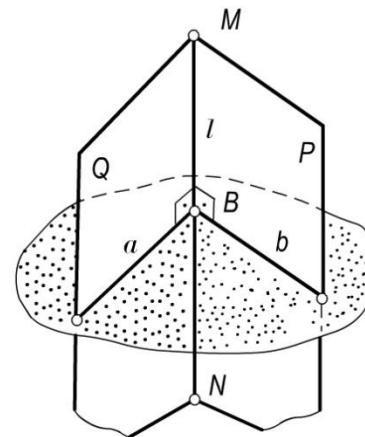
Perpendikulyarlik two of the plains the plains. Definition. Any plane and two-plane which is common to a straight line is perpendicular to this plane is also perpendicular to this plane is.

As it is known, Q and P to the plains on their common line l is the line of intersection. The plains l optional intersection of the line B point, we can choose (2-picture). From this point on l respectively perpendicular to Q and P , which are relevant to the area a and b , we held the line. As a result, $a \perp b$ kesishuvchi of a straight line T forms a plane. While this flat given Q and P is perpendicular to plane.

Therefore, given T perpedikulyar plane which is l a pass on any plane perpendicular line is on.



2-picture

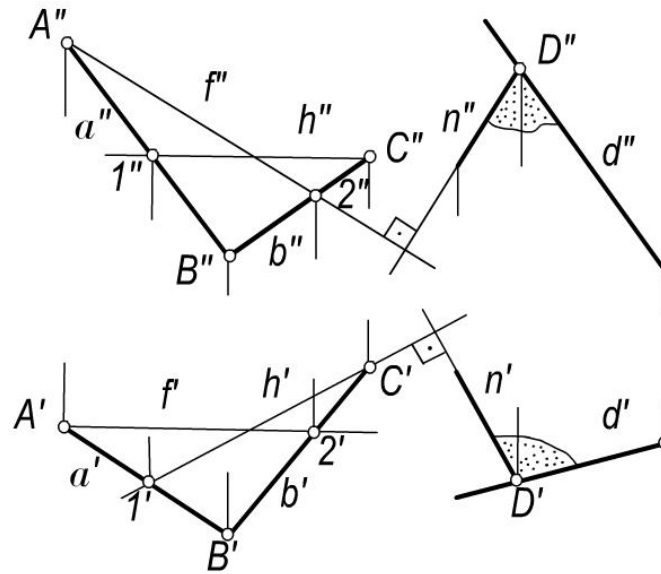


3-picture

Example. $P(P_H, P_V)$ plane and perpendicular to The_x , which was from The plane may be held with traces of (4-picture).

To solve this example:

- P optional plane perpendicular to a line is held on.



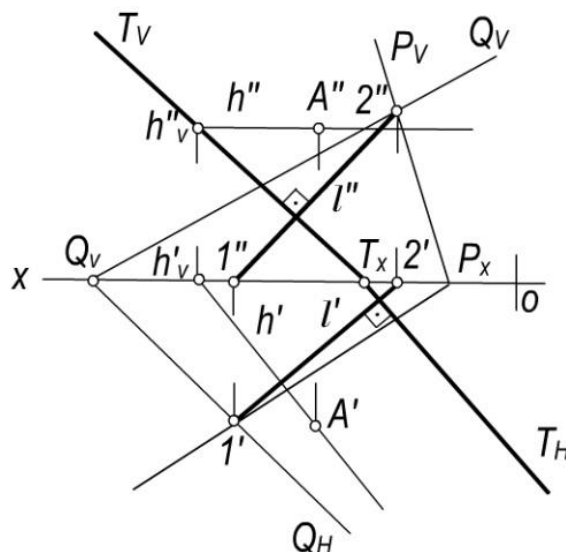
6-picture

Example. $A(A', A'')$ from the point of $Q(Q_H, Q_V)$ and $P(P_H, P_V)$ plane, which is perpendicular to $T(T_H, T_V)$ plane may require you to transfer (5-picture).

This sample is charged as follows.

- Q and p in the plane of intersection of the line l', l'' is made of projective;
- A point A' and A'' projective izlangan from the horizontal plane (or frontal) plane perpendicular to the line of his tracks and is held to the intersection of h_V', h_V'' is made of projective;
- the trail izlangan frontal plane $T_V \square h'', T_V \square l'' T_H \square T_X, T_H \square l'$ is held to.

As a result, a third plane which is perpendicular to the given plane is made of two: $T \square Q$ and $T \square P$.

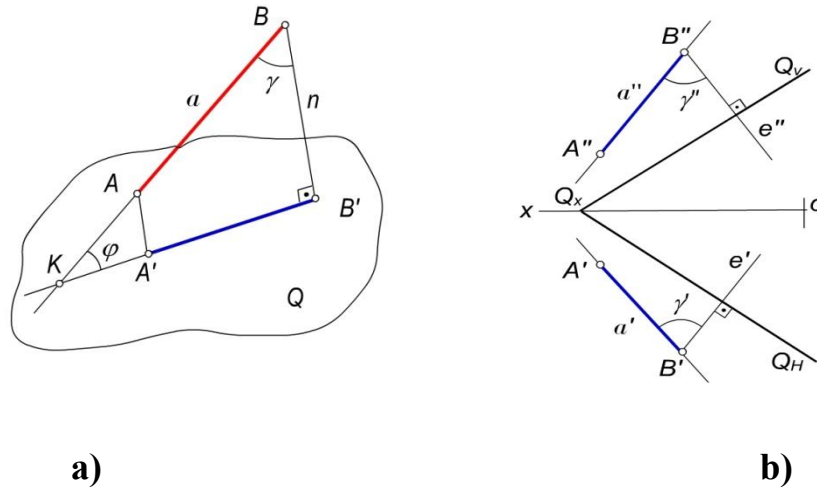


7-picture

Determine the angle between the straight line and the plane
Definition. The angle between the straight line and the plane as a
straight line orthogonal of a given projective plane is the angle between

The angle between the straight line and the plane 8,*a*-spatial model using the
algorithm to made as shown in the picture can be detected with the following:

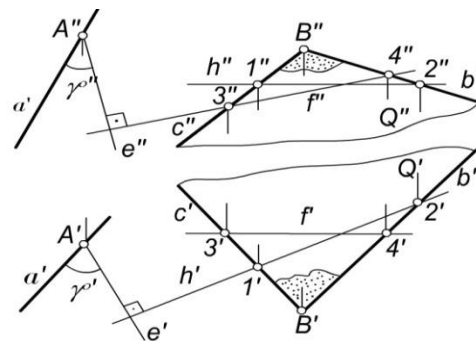
- Given *a* line on *The* plane with the intersection point is determined: $K = a \cap Q$.
- Optional in a straight line *B* point is selected. From this point, given *The* plane to *n* perpendicular in the fall of her *on the* plane with the intersection point is determined as follows: $B' = n \perp Q$.
- Then *K* and *B'*, which is formed as a result of development of mutually adjacent corner point of *a* straight line and *The* plane between \perp corner.



8-picture

To determine the angle between the plane with a straight line in the graph listed above the plane of the intersection of a straight line with the rules and algorithms made perpendikulyarlik is made using. Thus, φ the corner is a optional of a straight line B from the point The plane was put between the perpendicular \perp is determined by the angle (8-a,b picture). $\varphi^\circ + \gamma^\circ = 90^\circ$ to $\varphi^\circ = 90^\circ - \gamma^\circ$ in $Q(b \cap c)$ plane and a line between right \square to determine the angle (9-picture):

- the plains of h (h', h'') horizontal and f (f', f'') is held frontal;
- optional a straight line A (A', A'') from the point of the frontal horizontal plane and e (e', e'') is held perpendicular to. Thus: $e' \perp h'$ and $e'' \perp f''$ and γ (γ', γ'') the angle is determined.



9-picture

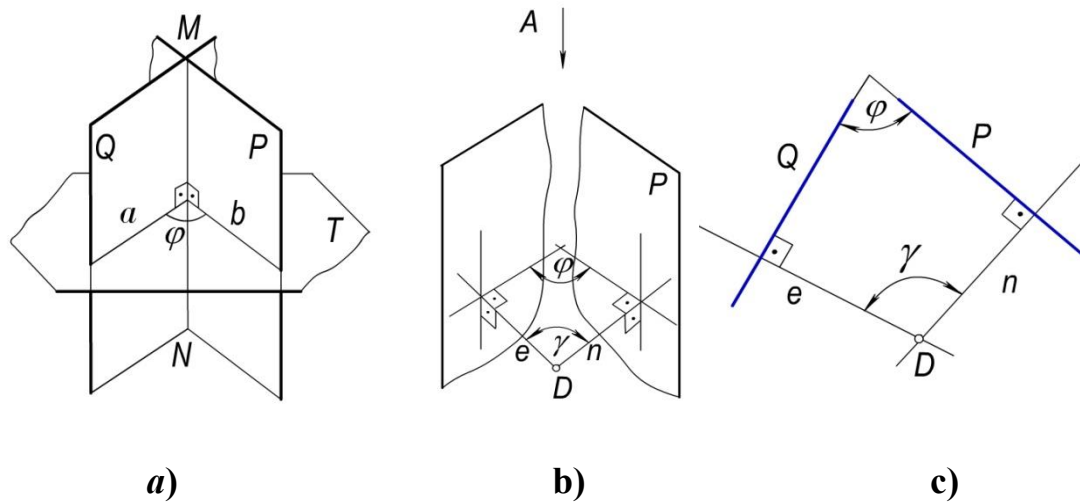


Determine the angle between the two plane

The angle between the two plane angle between two straight lines that are perpendicular to the line of their intersection with a linear measure.

Determined by the algorithm to the corner made following this linear (10-a picture).

- P and Q of the plane l of intersection of the line is made.
- The plains of l corresponding to the intersection of the line optional $A \ni l$ is the perpendicular from the point to the t plane is held. This plane Q and P is perpendicular to plane also.
- T the plane of Q and P to the intersection with the plane of a and b is made of strips: $a = Q \cap T$ and $b = P \cap T$.
- The line between the intersection of plane $a \cap b = \square$ izlangan corner.



10-picture

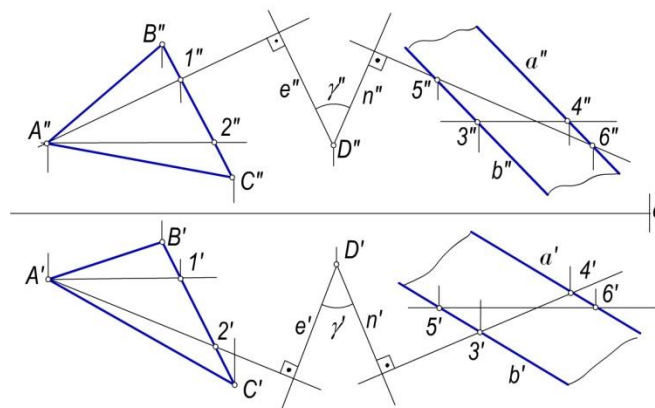
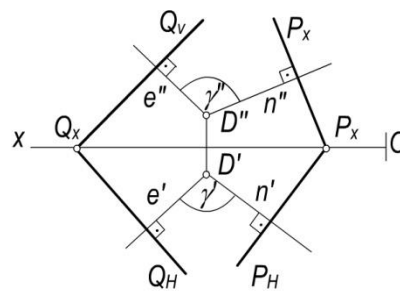
P and Q the angle between the two sides can also be detected as follows (10-b picture):



Optional space D the given point Q and the p plane f and n in the fall of perpendicular, perpendicular between this γ by determining the actual value of the angle \square corner qiyimati $\varphi=180^\circ-\gamma$ is determined by the formula.

You \square the true value of the angle $\gamma \leq 90^\circ$, if this angle is the angle between two plane.

12-in the picture $\triangle ABC$ and $a \perp b$ determine the angle between a straight line of the projective plane given with the optional $D(D', D'')$ the point is selected. His D' and D'' from the projective plane to gorizontallar and frontal $e' \perp h_1', e' \perp f_1''$ and $n' \perp h_2', n'' \perp f_2''$ is held perpendicular to. As a result, the yield $\gamma(\gamma', \gamma'')$ determine the actual size of the angle, and then $\varphi=180^\circ-\gamma^\circ$ the angle is determined.



11picture

12picture



THE SURFACE OF THE PLAINS AND ITS PROEKSIYALANISHI

The surface of the plains, in any plane the same distance, all at the same distance from the plane of its points lies, therefore, it is said that the area is parallel to the plane proeksiyalar. Aa' , Bb' , Cc' , Dd' is a distance equal to one. ABCD is parallel to the plane of the surface of v .

Proeksiyalar a plane perpendicular to the plains on the surface of at least one line if you have pproeksiya the plane perpendicular to this plane is said. The h is perpendicular to ab and cd also. Hence, ABCD is perpendicular to the surface of this.

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