

There is only one straight line passing through a point and perpendicular to a plane.

한 점을 지나고 한 평면에 수직인 직선은 단
하나뿐이다.

(There is only one straight line passing through a point and
perpendicular to a plane.)

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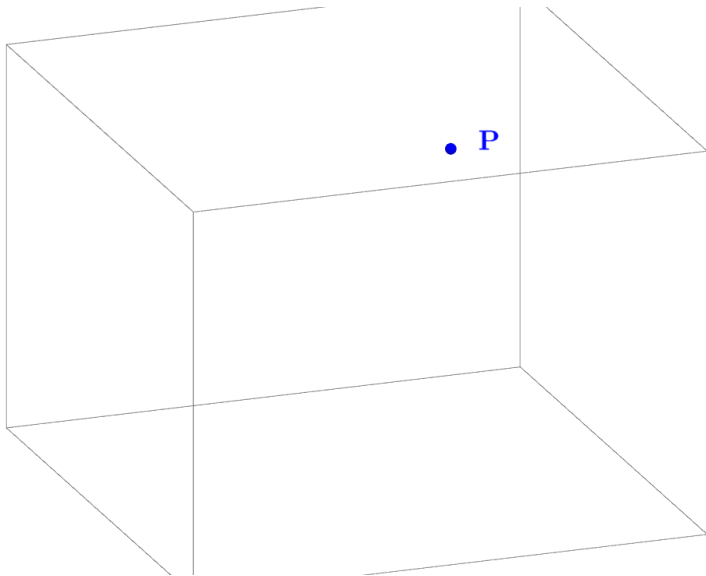
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There is only one straight line passing through a point and perpendicular to a plane.

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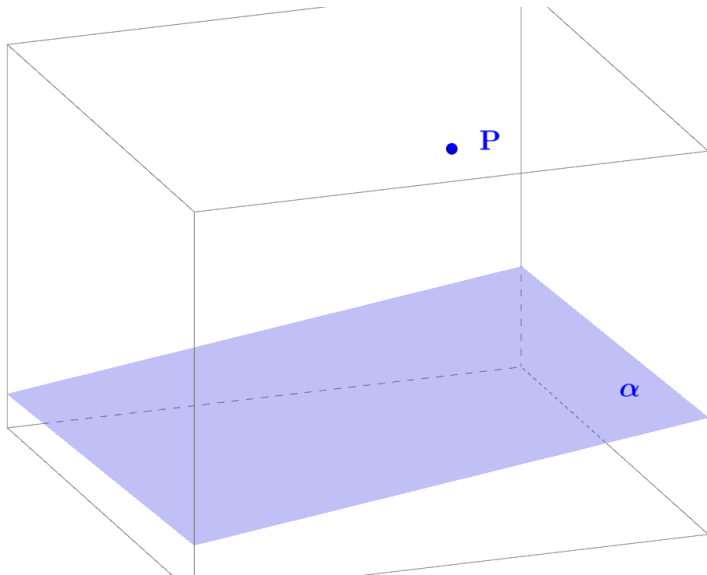
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There is only one straight line passing through a point and perpendicular to a plane.

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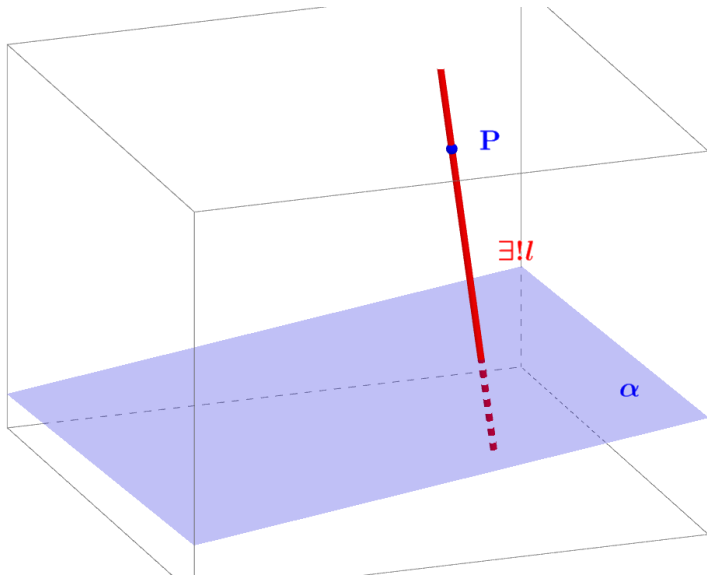
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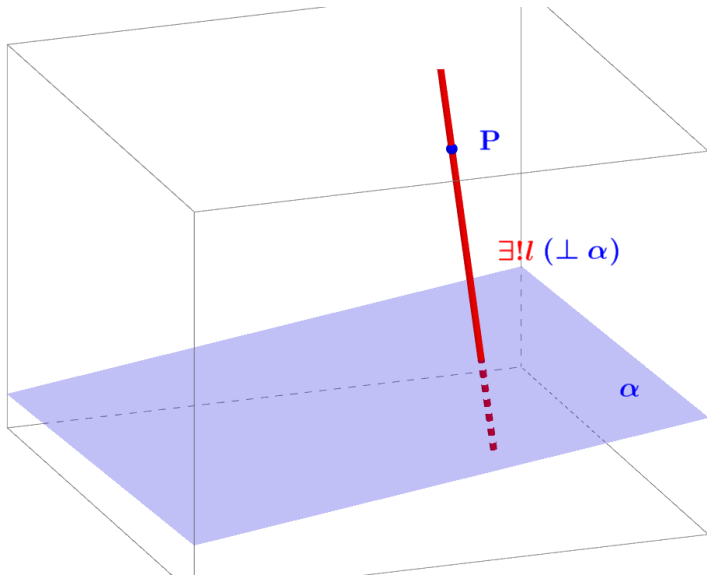
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▶ Start

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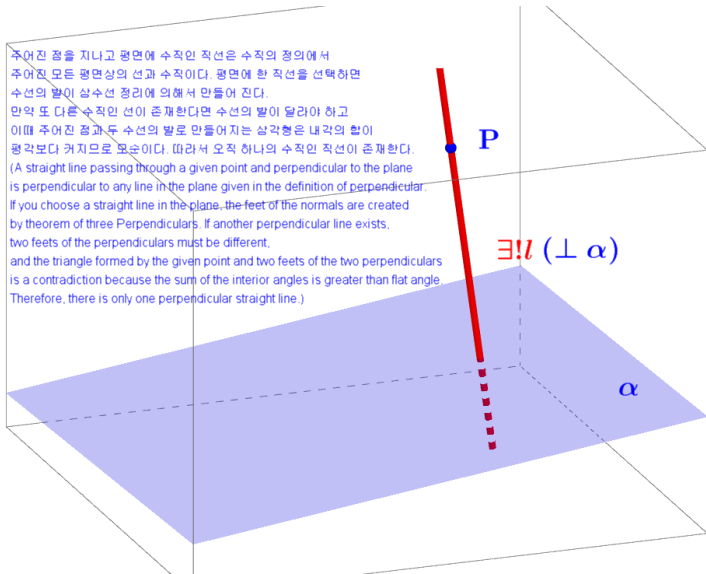
주어진 점을 지나고 평면에 수직인 직선은 수직의 정의에서 주어진 모든 평면상의 선과 수직이다. 평면에 한 직선을 선택하면 수선의 발이 삼수선 정리에 의해서 만들어 진다.

만약 또 다른 수직인 선이 존재한다면 수선의 발이 달라야 하고 이때 주어진 점과 두 수선의 발로 만들어지는 삼각형은 내각의 합이 평각보다 커지므로 모순이다. 따라서 오직 하나의 수직인 직선이 존재한다.

(A straight line passing through a given point and perpendicular to the plane is perpendicular to any line in the plane given in the definition of perpendicular.

If you choose a straight line in the plane, the feet of the normals are created by theorem of three Perpendiculars. If another perpendicular line exists, two feet of the perpendiculars must be different,

and the triangle formed by the given point and two feet of the two perpendiculars is a contradiction because the sum of the interior angles is greater than flat angle. Therefore, there is only one perpendicular straight line.)



There is only one straight line passing through a point and perpendicular to a plane.

Github:

<https://min7014.github.io/math20230207001.html>

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and you can see a picture moving.