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How to perform ray plane intersection?

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1-Define the Plane: A plane can be defined by a point Po (a position vector on the plane) and a normal vector N

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2-Define the Ray: A ray can be defined by its origin O and direction D

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3-Find Intersection: To find if and where the ray intersects the plane, you use the formula:

$$t = \frac{(P_0 - O) \cdot N}{D \cdot N}$$

This equation gives you the distance t from the ray's origin to the point of intersection on the plane. If D · N=0, the ray is parallel to the plane and there is no intersection. If t<0, the intersection point is behind the ray's origin, assuming the ray is directional and starts at O.


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4-Calculate Intersection Point: If there is an intersection, the point P of intersection can be found using:

$$P = O + tD$$