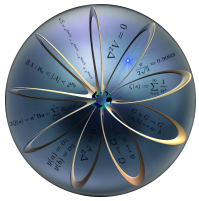

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parallelism of line and plane

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Parallelity of a line and a plane means that the angle between line and plane is 0, i.e. the line and the plane have either no or infinitely many common points.

Theorem 1. If a line (l) is parallel to a line (m) contained in a plane (π), then it is parallel to the plane or is contained in the plane.

Proof. So, $l \,||\, m \subset \pi$. If $l \not\subset \pi$, we can set a set along the parallel lines l and m another plane ϱ. The common points of π and ϱ are on the intersection line m of the planes. If l would intersect the plane π, then it would intersect also the line m, contrary to the assumption. Thus $l \,||\, \pi$.

Theorem 2. If a plane is set along a line (l) which is parallel to another plane (π), then the intersection line (m) of the planes is parallel to the first-mentioned line.

Proof. The lines l and m are in a same plane, and they cannot intersect each other since otherwise l would intersect the plane π which would contradict the assumption. Accordingly, $m \,||\, l$.