

IV. A STRAIGHT LINE is that which lies *evenly* between its *extreme* points.

A straight line, therefore, is the shortest possible distance between any two points or positions. The difference between a line and a straight line is this: let us take any two points on the surface of a table which is perfectly level, a line may be represented by a piece of wire passing from one point to the other, above, below, or through the table, bending to the right hand or to the left; but a straight line between the same points is one that may be traced with the aid of a ruler on the flat surface of the table, in a direct course, without the slightest turning to one side or the other.

V. A SUPERFICIES (*or surface*) has only length and breadth.

Like Euclid's point and line, his superficies can exist in imagination only; there is nothing in nature that has length and breadth without thickness; the superficies of any thing is merely the surface or outside: SUPERFICIES, the Latin term for surface, is derived from the Latin preposition *SUPER*, *above*, and the noun *FACIES*, a *face*.

VI. The EXTREMITIES OF A SUPERFICIES are lines.

Lines mark or determine the extent of any surface, and clearly define its limits or boundaries.

VII. A PLANE SUPERFICIES is that in which any two (*or more*) points being taken, the straight line (*or lines*) between them lies wholly in that superficies.

The surface of a level table or floor is the best example that we can have of a plane superficies: the word plane means even or level; hence the reason why the instrument with which the carpenter renders the surface of a rough plank even and level is called a Plane.

Bear in mind the difference between a superficies and a plane superficies; the former may be applied to the surface or outward face of any thing in nature, however uneven it may be; but the latter can only be used when we are speaking of the surface of any thing that is perfectly flat and even.

SECTION II. ANGLES. Def. VIII—XII.

VIII. A PLANE ANGLE is the inclination of two lines to each other in a plane, which meet together, but are not in the same direction.

A plane is an even surface: we may draw two lines of any description meeting each other on the even surface of a table, slate, or black board; the corner enclosed by the lines bending towards each other at the point of meeting, is called a plane angle.

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