

Geometry: Points to Remember

1. Point:

A point is an exact position or location on a plane surface.



2. Line:

Line: A straight line which continues indefinitely in either direction.

A line can be short or long, or flat or slant or vertical. No end points.



3. Line Segment:

Line Segment is a straight line with a definite start and end point.

A line that is short and ends on both sides.

We can measure its length. Has end points



4. Rays:

Ray is a straight line with a definite start point and no end point.

Ray is a line that end on one side but proceed indefinitely on the other side

The fixed end point of a ray: starting point.



Two Rays: Can be parallel or intersecting

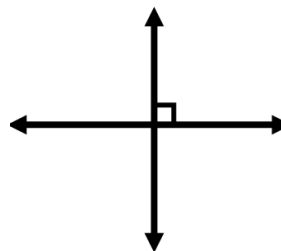
Two Rays: may have same starting point.

5. Types of Lines:

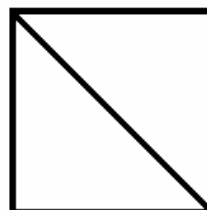
1. Parallel lines: are always the same distance apart, and they never meet



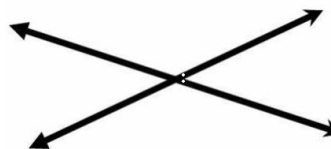
2. Perpendicular Lines: Two straight lines that meet each other exactly at 90 degree (right angle).



3. Diagonal – lines within a shape that join a vertex (corner) to another vertex



4. Intersecting Lines: Intersecting lines: Lines that are not parallel, and they meet at some point. Intersection – the place where two or more lines cross over each other. Point where the two lines (curved or straight) meet or cross each other.

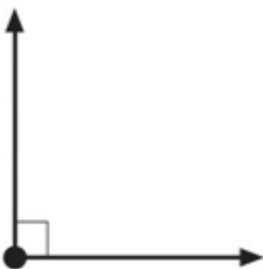


6. Angles and Types of Angles:

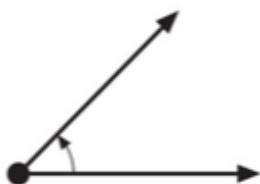
Angle: The angle is the amount of space between two lines where they join or meet.

Angle is measured in degrees using a protractor. The symbol for degree is $^{\circ}$.

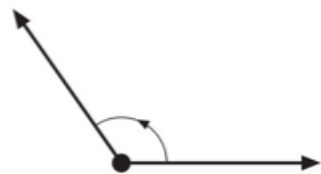
1. Right Angle: 90 degree



2. Acute Angle: Greater than zero degree and less than 90 degree



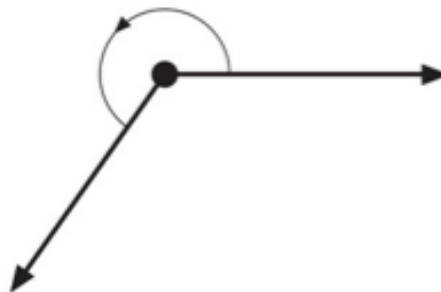
3. Obtuse Angle: Greater than 90 degree and less than 180 degree



4. Straight Angle: 180 degree



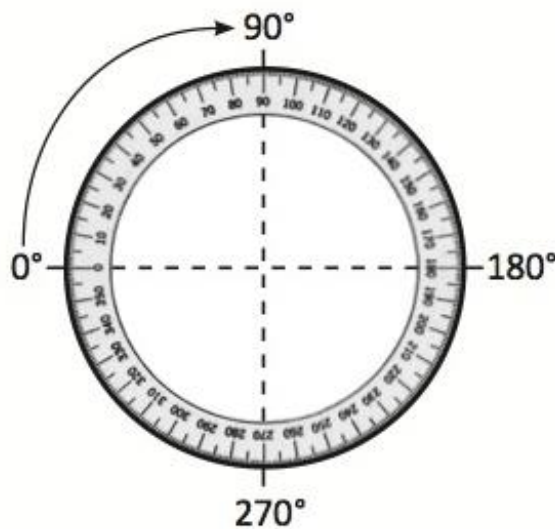
5. Reflex Angle: Greater than 180 degree and less than 360 degree



6. Revolution Angle: 360 degree.



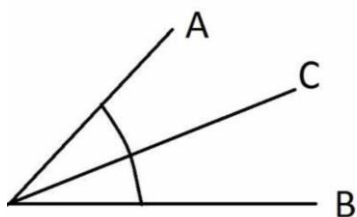
7. Turn:



1. A Quarter Turn: 90 degree
2. A Half Turn: 180 degree
3. A three-quarter turn: 270 degree
4. A Full Turn: 360 degree

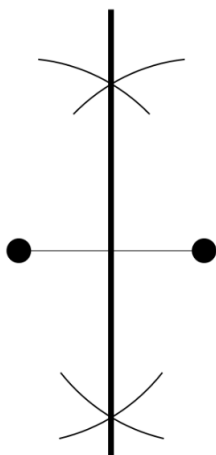
8. Angle Bisector:

It is a line that divides an angle in half



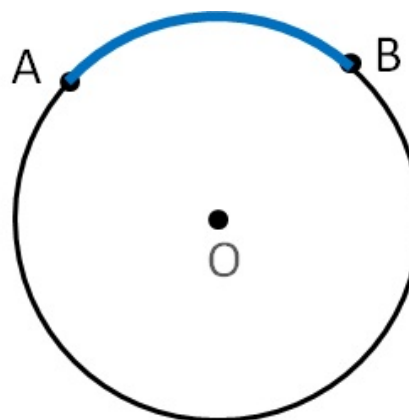
9. Perpendicular line bisector:

It is a line that divides a line segment into two equal sizes and makes a right angle (90 degree) with the line segment it cuts through.

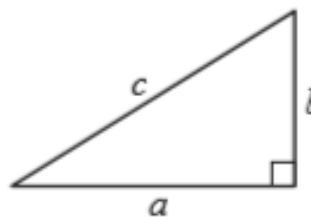


10. Arc:

Part of a circle, which is drawn using a compass.



11. Pythagoras' Theorem



$$a^2 + b^2 = c^2$$

Right angled triangles- 90 degree as one of the inside angles.

90 degree is opposite to the longest side.

Length of the side c is called Hypotenuse.

SQUARE:

- Number of sides: 4
- opposite sides are parallel
- all sides (4) are of equal length
- all 4 interior angles are right angles (90°)
- if you draw in the diagonals, right angles are formed where they intersect

RECTANGLE:

- opposite sides are parallel and of equal length
- all 4 interior angles are right angles (90°)

RHOMBUS:

- all 4 sides are equal in length
- opposite sides are parallel
- 4 interior angles
- opposite angles are equal
- if you draw in the diagonals, right angles are formed where they intersect

TRAPEZIUM:

- only one pair of opposite sides is parallel
- 4 interior angles
- 2 parallel lines = 2 parallel angles