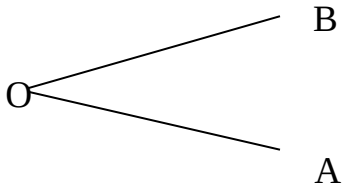
CHAPTER FIVE

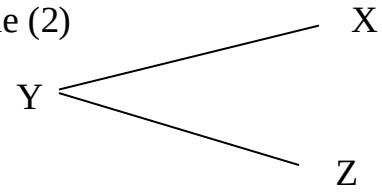
BASIC GEOMETRY

Angle: An angle is formed when two straight lines meet at a point. Example (1)



- In the above figure, the lines AO and BO meet at the point O.
- The angle formed is called angle $A\hat{O}B$ or angle $B\hat{O}A$, which can be written as A $\hat{O}$B, B$\hat{O}$A, $< AOB \text{ or } < BOA$.

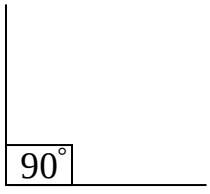
Example (2)



- The lines xy and zy meet at the point y, and the angle formed is angle xyz $(x\hat{y}z)$ or angle $z\hat{y}x$ (zyx)

Types of angles

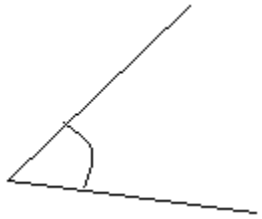
1. **Right angle of angle 90°**



The sum of angles within a right angle is 90°

2. **Acute angle:**

This is an angle which is less than 90°, and examples are angles 30°, 45°, 70 and 89°.

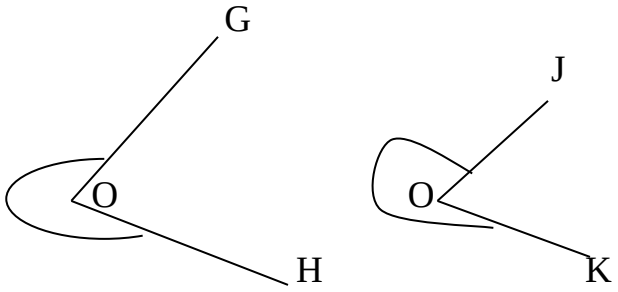


Obtuse angle

3. 

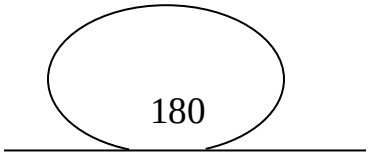
- This is an angle which is greater than 90° but less than 180°
- Examples are angles 91°, 120°, 145°, 170° and 179°.

4. **Reflex angle.**



- GOH and JOK are reflex angles, which are angles which are greater than 180° but less than 360°
- Examples are angles 240°, 190°, 300° and 310°

5Angle 180° or the straight line:



- The sum of angles or the total angles on a straight line is 180°
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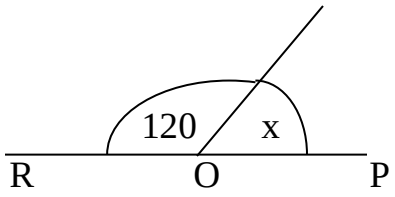
Q1



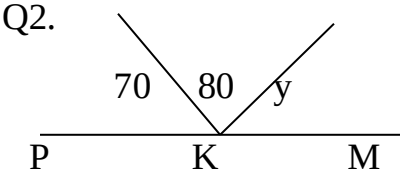
Find the angle marked x°

Soln.

Since ROP is a straight line, then sum of angles on it = 180°

=>120° + x = 180°, => x = 180° - 120° = 60°. Therefore x = 60°.

Q2.



Find the angle marked y°

Soln.

Since PKM is a straight line, then the sum of angles on it is 180° =>70° + 80° + y = 180°, =>150° + y = 180°, => y = 30°