

Coordinate Geometry Important Points and Results:

- “As the area of a triangle can never be negative, we must take the absolute value, in case area happens to be negative”.
- To find the area of a quadrilateral, we divide it into triangular regions, which have no common area and then add the area of these regions.
- The area of the quadrilateral is never negative. That is, we always take the area of quadrilateral as positive.
- Two French mathematicians Rene Descartes and Pierre-de-Fermat were the first to conceive the idea of modern coordinate geometry by 1630s.
- The inclination of X axis and every line parallel to X axis is 0°
- The inclination of Y axis and every line parallel to Y axis is 90° .
- The slope of a vertical line is undefined.
- In any triangle, exterior angle is equal to sum of the opposite interior angles.
- Let l_1 and l_2 be two lines with well-defined slopes m_1 and m_2 respectively, then
 - (i) l_1 is parallel to l_2 if and only if $m_1 = m_2$.
 - (ii) l_1 is perpendicular to l_2 if and only if $m_1 m_2 = -1$.

- If the slopes of both the pairs of opposite sides are equal then the quadrilateral is a parallelogram.
- If $b > 0$, then the line $y=b$ lies above the X axis
- If $b < 0$, then the line $y=b$ lies below the X axis
- If $b = 0$, then the line $y=b$ is the X axis itself.
- If $c > 0$, then the line $x=c$ lies right to the side of the Y axis
- If $c < 0$, then the line $x=c$ lies left to the side of the Y axis
- If $c = 0$, then the line $x=c$ is the Y axis itself
- If a line with slope m , $m \neq 0$ makes x intercept d , then the equation of the straight line is $y = m (x-d)$.
- $y = mx$ represent equation of a straight line with slope m and passing through the origin.
- For, the point (x, y) in a xy plane, the x coordinate x is called “Abscissae” and the y coordinate y is called “Ordinate”.
- The formula for converting Celsius to Fahrenheit is given by $F = \frac{9}{5}C + 32$, which the linear equation is representing a straight line derived in the example.
- The great mathematical physicists like Galileo and Newton used coordinate geometry to characterize the motions of objects in plane and space.