Preliminaries
- Cartesian Coordinate System
- Slope Formula
- Pythagorean Theorem

Objectives
- Write equations involving arbitrary points

Arbitrary Points

\[
\frac{2}{3} = \frac{y - 1}{x - 2}
\]

Equation of a Circle

Find the set of all points that are a distance of 3 from the point \((-2, 4)\).

\[
(x + 2)^2 + (y - 4)^2 = 3^2
\]
Recap

- Let \((x, y)\) be an arbitrary point
- Write equations corresponding to the geometric description