

## Introduction to Analytic Geometry



## Preliminaries and Objectives

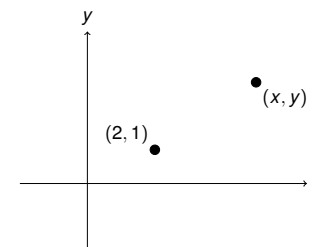
### Preliminaries

- Cartesian Coordinate System
- Slope Formula
- Pythagorean Theorem

### Objectives

- Write equations involving arbitrary points

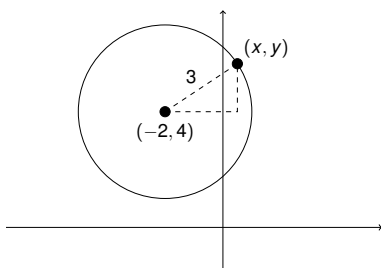
## Arbitrary Points



$$\frac{2}{3} = \frac{y-1}{x-2}$$

## 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