

MA205 – LSN 34

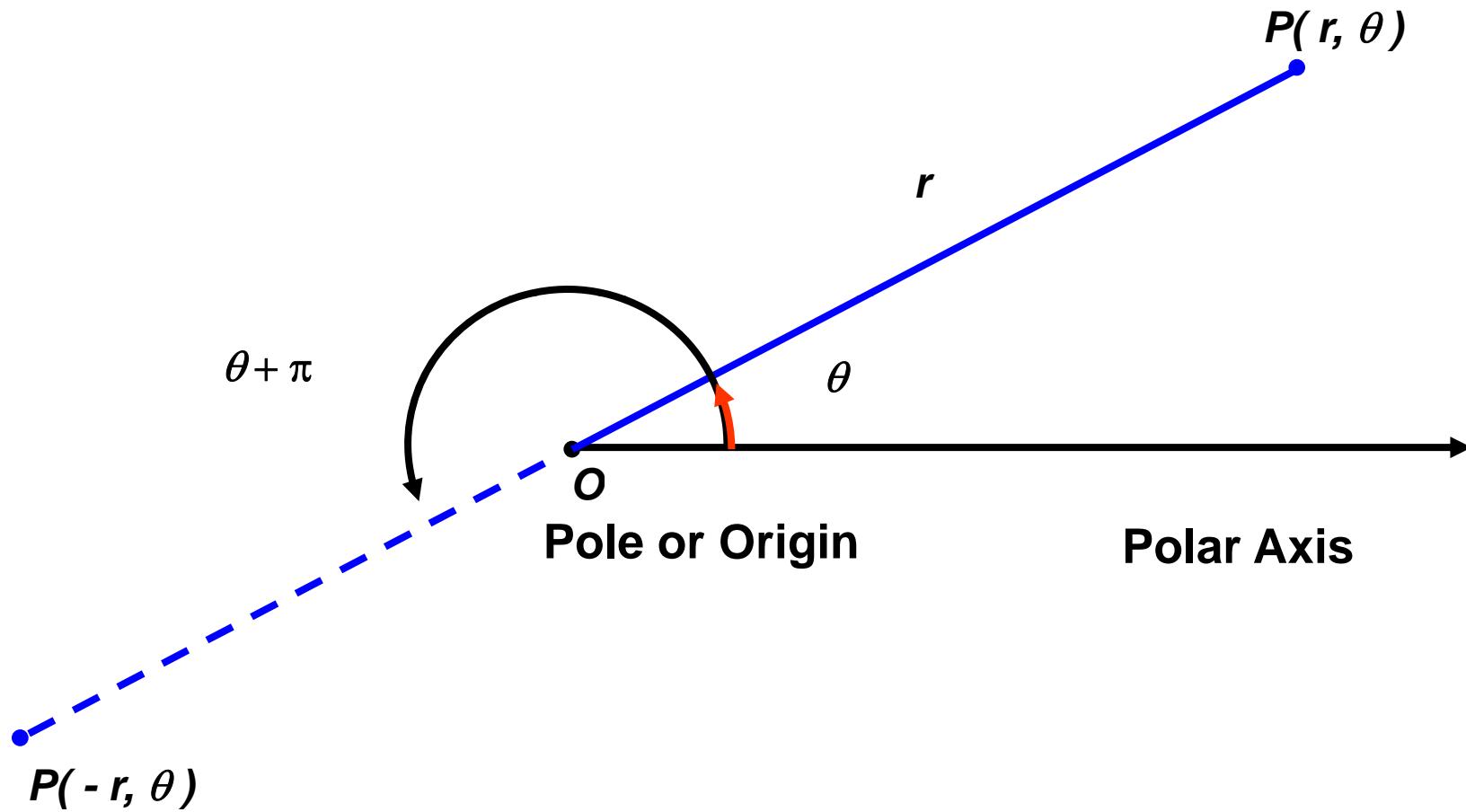
Polar Coordinates



Objectives

- Understand the polar rectangle and its relationship to: $\int_{\theta_1}^{\theta_2} \int_{r_1}^{r_2} f(r, \theta) r \ dr \ d\theta$
- Understand when polar coordinates make setting up an iterated integral easier.
- Use polar coordinates to solve iterated integrals.

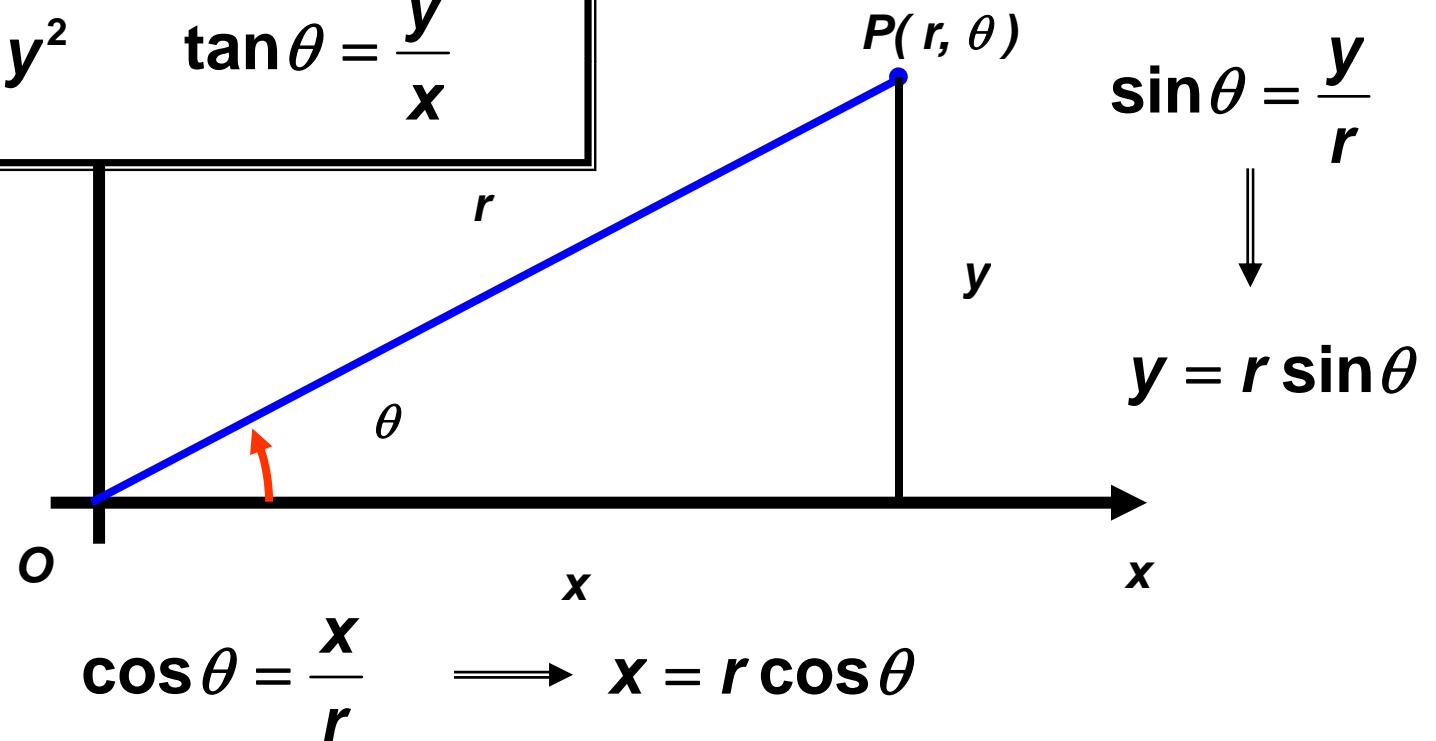
Polar Coordinate System



Curves in Polar Coordinates

To find r and θ when x and y are known

$$r^2 = x^2 + y^2 \quad \tan \theta = \frac{y}{x}$$



Lesson Link

