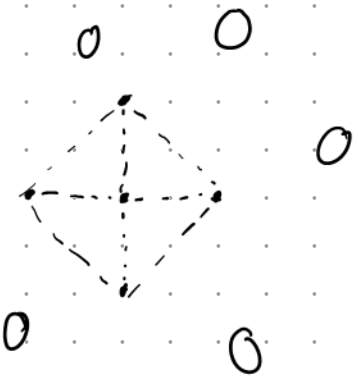
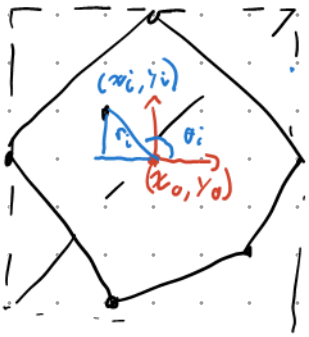
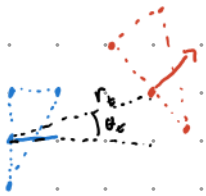




formation

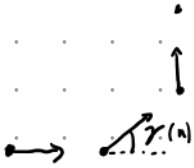
$$(x_i, y_i) = (r_i \cos\theta_i + x_0,\ r_i \sin\theta_i + y_0)$$

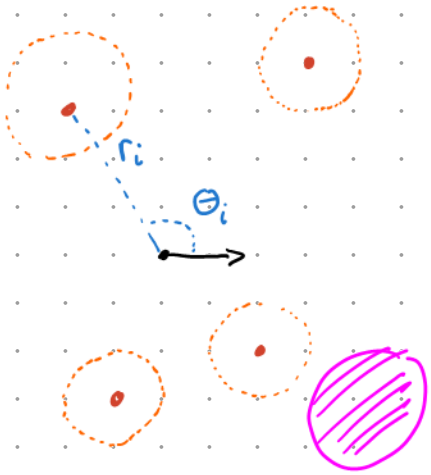
$$(x_2, y_2) = (r_2 \cos\theta_2 + x_1,\ r_2 \sin\theta_2 + y_1)$$



$$(x_i(n+1),\ y_i(n+1)) = (r_i \cos\theta_i + r_2(n)\cos\theta_2(n) + x_0(n),\ r_i \sin\theta_i + r_2(n)\sin\theta_2(n) + y_0(n))$$

$$= (r_i \cos(\theta_i + \gamma(n)) + r_2(n)\cos\theta_2(n) + x_0(n),\ r_i \sin(\theta_i + \gamma(n)) + r_2(n)\sin\theta_2(n) + y_0(n))$$





= = Robots - - = safe radius

every robot has some (r_i, θ_i) w.r.t the arbitrary centre

= = obstacle