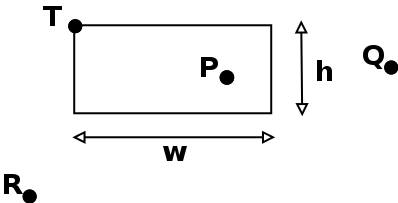
## Math for COMP258

**Collision Detection**

*Does a point lie inside a rectangle with top left corner point* T*, width* w *and height* h*?*



boolean ptInRect(PVector point,PVector T,float w,float h) {

boolean result = false;

if (point.x >= T.x && point.x <= T.x + w)

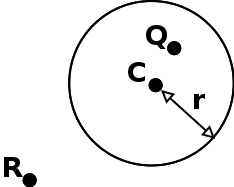
if (point.y >= T.y && point.y <= T.y + h)

result=true;

return result;

}

*Does a point lie inside a circle with center* C*, and radius* r*?*



boolean ptInCircle(PVector point,PVector C,float r) {

boolean result = false;

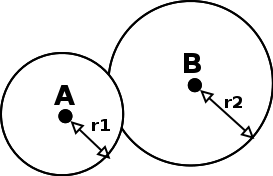
if (point.dist(C)<=r)

result=true;

return result;

}

*Do two circles with centers* A *and* B*, and radii* r1 *and* r2*, intersect?*



boolean circleCollision(PVector A, PVector B,float r1, float r2) {

boolean result = false;

if (A.dist(B)<=r1+r2)

result=true;

return result;

}

**Points around the Perimeter of a Circle**

**Gaussian vs Uniform Random Distribution**

**Basic Physics**