

**Review**

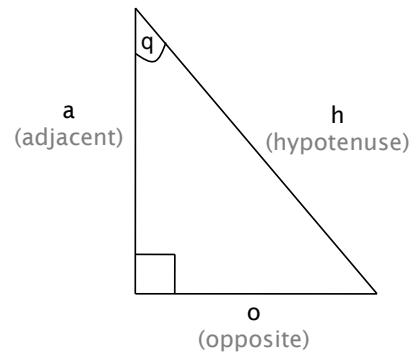
- Loops
  - Condition
  - Index
- Functions
  - Definition
  - Call
  - Parameters
  - Return value
- Variable scope
  - global
  - local

**Variable Declaration and Definition**

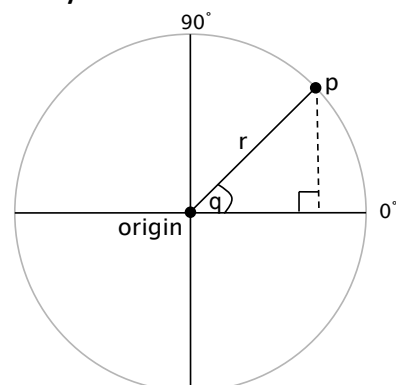
```
float y = height/2;    void setup() {
                        size(500, 500);
void setup() {        float y = height/2;
  size(500, 500);    println(y);
  println(y);        }
}
                        void draw() {
void draw() {        println(y);
  println(y);        }
}
}
```

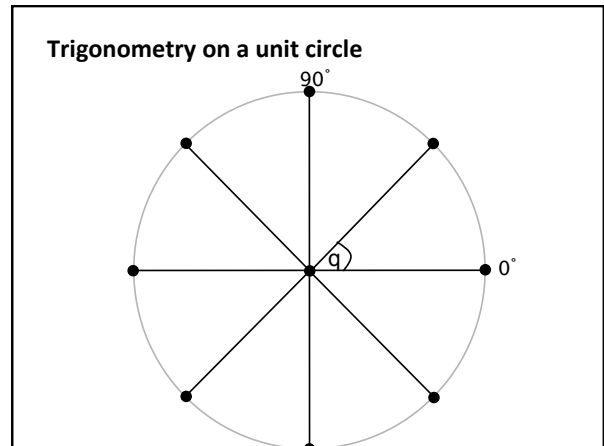
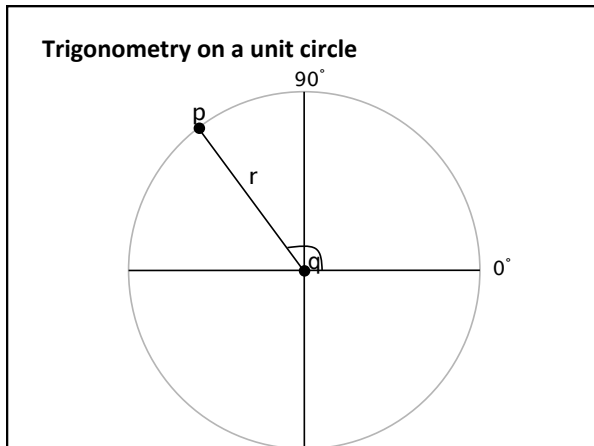
**More on nested loops**

- pictureTile
- pictureTile2
- scopeLines

**Basics of Trigonometry****Definition**

- $\sin(q) = o/h$
- $o = h \cdot \sin(q)$
  
- $\cos(q) = a/h$
- $a = h \cdot \cos(q)$
  
- $\text{tangent}(q) = o/a = \sin(q)/\cos(q)$

**Trigonometry on a unit circle**



**Drawing points along a circle**

```

int steps = 8;
int radius = 20;
float angle = 2*PI/steps;

for (int i=0; i<steps; i++) {
    float x = cos(angle*i)*radius;
    float y = sin(angle*i)*radius;

    // draw a point every 1/8th of a circle
    ellipse(x, y, 10, 10);
}
    
```

