Kinds of Light

Blender
- Point
- Sun (Directional)
- ~~Boooo~~ Spot
- Area

Sun (Directional Light)
- Direction only

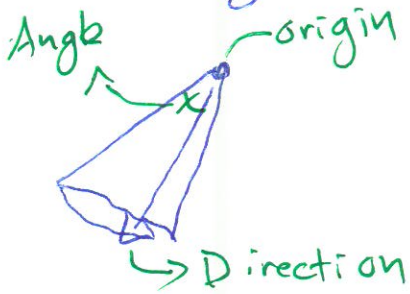
Point Light

- Position (used to calculate direction)
- Radius + falloff function
- R^2 drop off

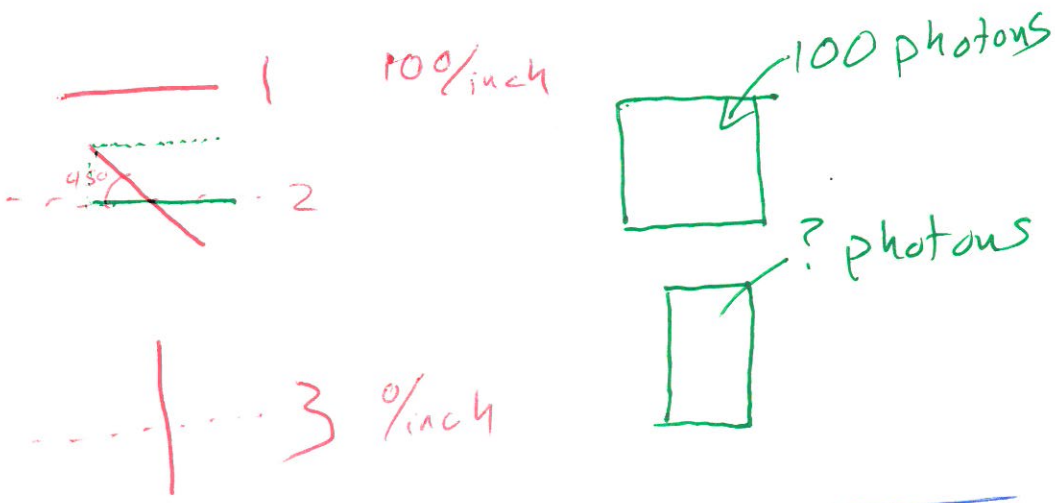
Area Lights
- Soft Shadows

Spot Light - flash light

Position
Angle
Direction
fall off

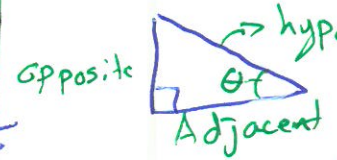


How to (not) Get A Tan



Know angle
Know length of
the ~~long side~~.
hypotenus

Trig Review



$$\cos(\theta) = \frac{\text{Adjacent}}{\text{hypotenus}}$$

$$\sin(\theta) = \frac{\text{opposite}}{\text{hypotenus}}$$

$$\text{Tan}(\theta) = \frac{\text{opposite}}{\text{Adjacent}}$$

$x = \cos(\theta) \cdot \text{radius}$

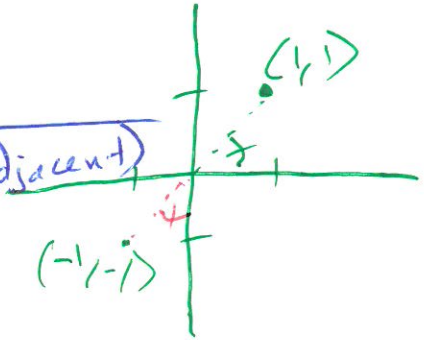
$y = \sin(\theta) \cdot \text{radius}$

$\text{atan}\left(\frac{\text{opposite}}{\text{Adjacent}}\right) = \theta$

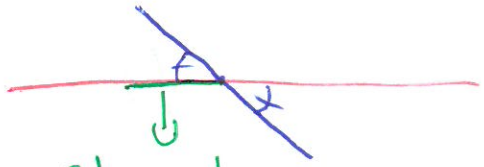
Broken

atan2(opposite, adjacent)

atan2(y, x)



Use of Trig



adjacent
(x)

$\cos(\theta) = \frac{\text{adjacent}}{\text{~~hypotenus~~}}$ if 1