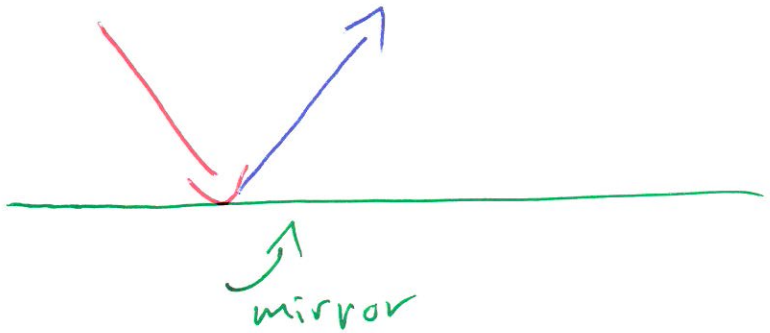
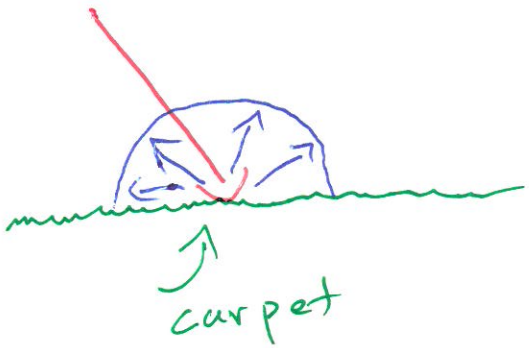
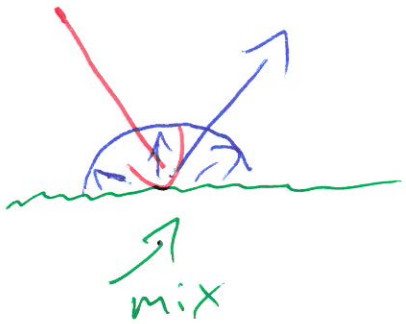
Lighting

Surface Characteristics





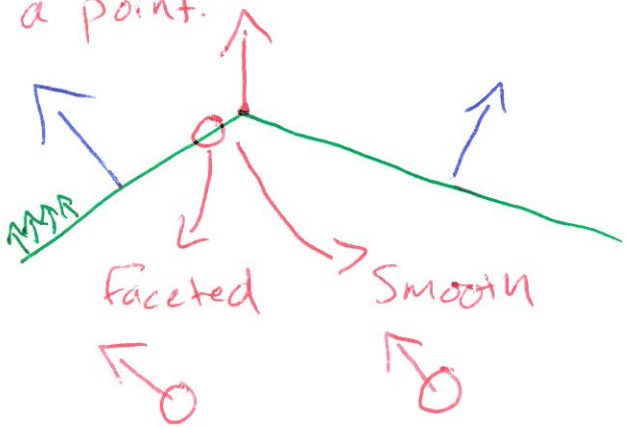


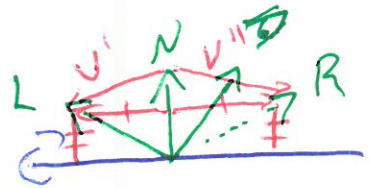
Classic shading Model

Ambient
Diffuse
+ Specular

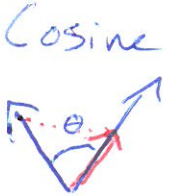
Normals

A normal provides a "hint" to the shader about the curvature of a point.





$N \cdot L$



$V' = L - N \qquad V'' = R - N$

$$R = 2(L \cdot N) \cdot N - L$$

(1) Ambient Light
- is normal agnostic.

(2) Diffuse Light

Dot product of the normal & the direction to the light.

$N \cdot L$

Clamp 0

(3) Specular
- Use R to get the difference between R & V
- Specular highlight strength

$\sim (R \cdot V)^x$ → x is big = small hilight; x is small = big hilight

Clamp 0