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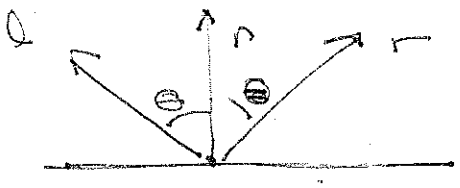
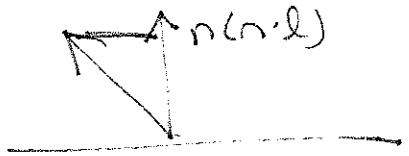
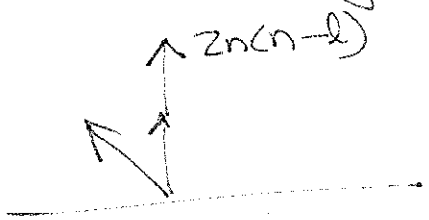
derivation of r



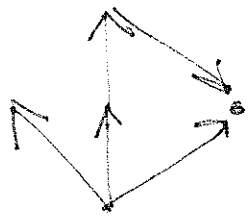
project l onto n



double length of vector



subtract l.



$r = 2n(n \cdot l) - l$

heuristic approximation to the reflected ray

$$h = \frac{e - l}{\|e + l\|}$$

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highlight should occur when

$$\cos \theta = h \cdot n \approx 1$$

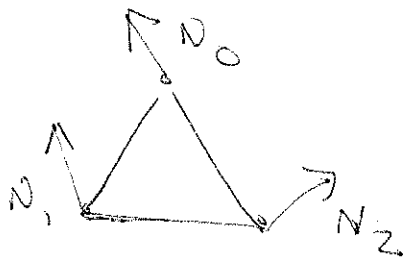
$$C = C_l (h \cdot n)^p$$

angle between $h + n$ is
half the size the angle between $e + r$

$h \cdot n$ is > 0 ~~when~~ when eye + light are above plane

← advantage over r

Surface Normal interpolation



barycentric coordinates $(\alpha\ \beta\ \gamma)$

colors $c = \alpha c_0 + \beta c_1 + \gamma c_2$

Normals $n = \alpha n_0 + \beta n_1 + \gamma n_2$

need to normalize