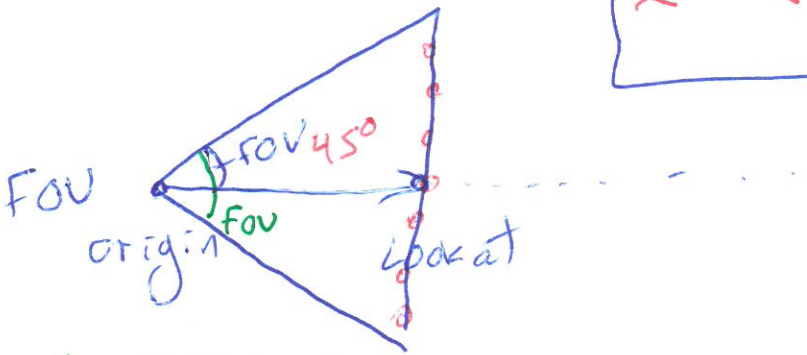
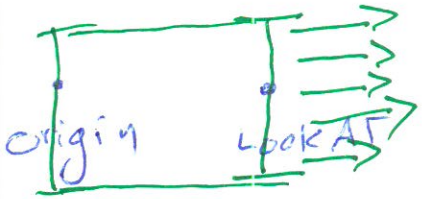
Camera

Perspective Camera



Orthographic



# of Pixels

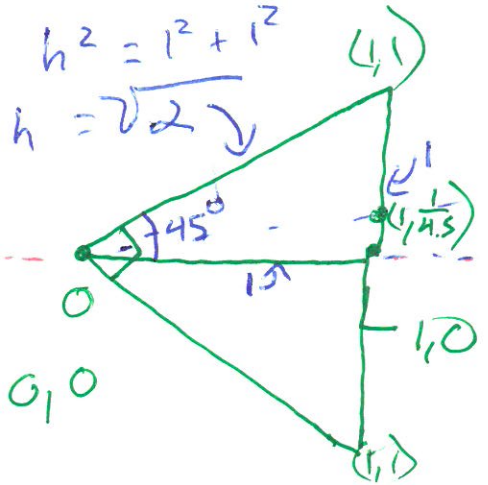
1	$\frac{1}{2}$
2	$\frac{1}{3}$ $\frac{2}{3}$
3	$\frac{1}{4}$ $\frac{2}{4}$ $\frac{3}{4}$
⋮	
n	$\frac{1}{n+1}$, $\frac{2}{n+1}$ .... $\frac{n}{n+1}$

Perspective

$h^2 = o^2 + a^2$

$h^2 = 1^2 + 1^2$

$h = \sqrt{2}$



$TAN(45) = \frac{?}{1}$

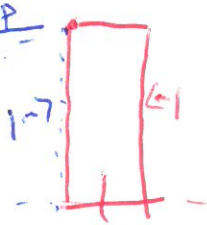
$TAN(45) = ?$

COS

SIN

$TAN(\phi) = \frac{OPP}{adj}$

ATAN



45 ft

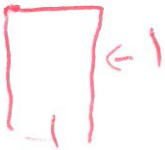
$ATAN2\left(\frac{1}{4.5}\right)$

$.218^r$

12.5^0

$\frac{1}{4.5} = \frac{?}{1}$

$? = 1/4.5$

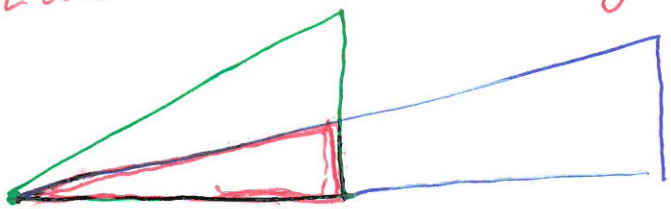


24

$\frac{1}{24} = \frac{?}{8}$

$\frac{1}{24}$

Law of Similar Triangles



if I have 2 right triangles with the same angle $\frac{O_1}{A_1} = \frac{O_2}{A_2}$

General Perspective

if an object of height 1 is n units from the camera origin & lives on the camera axis, the object will appear at a height of ....

$\frac{1}{n}$