

# Computer Graphics from Scratch

## A Programmer's Introduction to 3D Rendering

by Gabriel Gambetta

Errata updated to print 1

Page	Error	Correction	Print corrected
109	<pre>// The four "front" vertices vAf = [-1, 1, 1] vBf = [ 1, 1, 1] vCf = [ 1, -1, 1] vDf = [-1, -1, 1]  // The four "back" vertices vAb = [-1, 1, 2] vBb = [ 1, 1, 2] vCb = [ 1, -1, 2] vDb = [-1, -1, 2]</pre>	<pre>// The four "front" vertices vAf = [-2, -0.5, 5] vBf = [-2, 0.5, 5] vCf = [-1, 0.5, 5] vDf = [-1, -0.5, 5]  // The four "back" vertices vAb = [-2, -0.5, 6] vBb = [-2, 0.5, 6] vCb = [-1, 0.5, 6] vDb = [-1, -0.5, 6]</pre>	Pending
129	$\begin{pmatrix} \frac{c_w}{v_w} & 0 & 0 \\ 0 & \frac{c_w}{v_w} & 0 \\ 0 & 0 & 1 \end{pmatrix} \cdot \begin{pmatrix} x \\ y \\ z \end{pmatrix} = \begin{pmatrix} \frac{x \cdot c_w}{v_w} \\ y \cdot \frac{c_h}{v_h} \\ z \end{pmatrix}$	$\begin{pmatrix} \frac{c_w}{v_w} & 0 & 0 \\ 0 & \frac{c_h}{v_h} & 0 \\ 0 & 0 & 1 \end{pmatrix} \cdot \begin{pmatrix} x \\ y \\ z \end{pmatrix} = \begin{pmatrix} \frac{x \cdot c_w}{v_w} \\ y \cdot \frac{c_h}{v_h} \\ z \end{pmatrix}$	Pending
129	$\begin{pmatrix} \frac{d \cdot c_w}{v_w} & 0 & 0 & 0 \\ 0 & \frac{d \cdot c_h}{v_h} & 0 & 0 \\ 0 & 0 & 1 & 0 \end{pmatrix} \cdot \begin{pmatrix} x \\ y \\ z \\ 1 \end{pmatrix} = \begin{pmatrix} \frac{x \cdot d \cdot c_w}{v_w} \\ y \cdot \frac{d \cdot c_h}{v_h} \\ z \\ 1 \end{pmatrix} \rightarrow \begin{pmatrix} (\frac{x \cdot d}{z}) (\frac{c_w}{v_w}) \\ (\frac{y \cdot d}{z}) (\frac{c_h}{v_h}) \\ z \\ 1 \end{pmatrix}$	$\begin{pmatrix} \frac{d \cdot c_w}{v_w} & 0 & 0 & 0 \\ 0 & \frac{d \cdot c_h}{v_h} & 0 & 0 \\ 0 & 0 & 1 & 0 \end{pmatrix} \cdot \begin{pmatrix} x \\ y \\ z \\ 1 \end{pmatrix} = \begin{pmatrix} \frac{x \cdot d \cdot c_w}{v_w} \\ y \cdot \frac{d \cdot c_h}{v_h} \\ z \\ 1 \end{pmatrix} \rightarrow \begin{pmatrix} (\frac{x \cdot d}{z}) (\frac{c_w}{v_w}) \\ (\frac{y \cdot d}{z}) (\frac{c_h}{v_h}) \\ z \\ 1 \end{pmatrix}$	Pending
170	However, we don't have <b>Q</b> for every pixel of the triangle, but only for the vertices	However, we don't have <b>P</b> for every pixel of the triangle, but only for the vertices.	Pending

Page	Error	Correction	Print corrected
210	$R_x = V_y \cdot W_z - V_z \cdot W_y$ $R_y = V_x \cdot W_z - V_z \cdot W_x$ $R_z = V_x \cdot W_y - V_y \cdot W_x$	$R_x = V_y \cdot W_z - V_z \cdot W_y$ $R_y = V_z \cdot W_x - V_x \cdot W_z$ $R_z = V_x \cdot W_y - V_y \cdot W_x$	Pending