

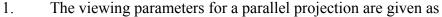
Computer Graphics Fall 2016 Quiz 4



Time: 10 Minutes

NOTES:

- a. Credit is only given to the correct numerical values.
- All numerical values must be calculated with three digits of accuracy after the decimal point.
- Do not write on the back side of the papers.



VRP(WC)=(3,4,5)	VPN(WC)=(8,6,12)
VUP(WC)=(1,2,3)	PRP (VRC)= $(2,5,-5)$
$u_{\min}(VRC) = -4$	$u_{\text{max}} (VRC) = 6$
$v_{\min}(VRC) = 24$	$v_{\text{max}} (VRC) = 26$
$n_{\min}(VRC) = 10$	$n_{\text{max}} (VRC) = 20$

Given all other transformations, find the **Shear** matrix which will transform this viewing volume into a unit cube which is bounded by the planes: x=0; x=1; y=0; y=1 ; z=0; z=1

Matrix #2: Rx				
1.000	0.000	0.000	0.000	
0.000	0.894	-0.447	0.000	
0.000	0.447	0.894	0.000	
0.000	0.000	0.000	1.000	
	Matrix #	4: Rz		
0.417	0.909	0.000	0.000	
-0.909	0.417	0.000	0.000	
0.000	0.000	1.000	0.000	
0.000	0.000	0.000	1.000	
]	Matrix #6: Translate			
1.000	0.000	0.000	4.000	
0.000	1.000	0.000	-24.000	
0.000	0.000	1.000	-10.000	
0.000	0.000	0.000	1.000	
Matrix #7: Scale				
0.100	0.000	0.000	0.000	
0.000	0.500	1.000	0.000	
0.000	0.000	0.100	0.000	

0.000

0.000

1.000

0.000

Matrix #1: Translate

Matrix #2. Dr.			
0.000	0.000	0.000	1.000
0.000	0.000	1.000	-5.000
0.000	1.000	0.000	-4.000
1.000	0.000	0.000	-3.000

3.6			
0.000	0.000	0.000	1.000
0.512	0.000	0.859	0.000
0.000	1.000	0.000	0.000
0.859	0.000	-0.512	0.000

Matrix #5: Shear