

**NAME:**

Time: 10 Minutes

**NOTES:**

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



1. The viewing parameters for the perspective projection are given as

$$\text{VRP(WC)}=(1,2,3)$$

$$\text{VPN(WC)}=(3,4,5)$$

$$\text{VUP(WC)}=(3,6,4)$$

$$\text{PRP (VRC)}=(1,3,10)$$

$$u_{\min}(\text{VRC}) = 12$$

$$u_{\max}(\text{VRC}) = 13$$

$$v_{\min}(\text{VRC}) = -1$$

$$v_{\max}(\text{VRC}) = 1$$

$$n_{\min}(\text{VRC}) = 11$$

$$n_{\max}(\text{VRC}) = 14$$

Given all other transformations, find the **Scale** matrices which will transform this viewing volume into a standard perspective volume

**Matrix #2: Rx**

1.000	0.000	0.000	0.000
0.000	0.781	-0.625	0.000
0.000	0.625	0.781	0.000
0.000	0.000	0.000	1.000

**Matrix #1: Translate**

1.000	0.000	0.000	-1.000
0.000	1.000	0.000	-2.000
0.000	0.000	1.000	-3.000
0.000	0.000	0.000	1.000

**Matrix #4: Rz**

0.996	0.091	0.000	0.000
-0.091	0.996	0.000	0.000
0.000	0.000	1.000	0.000
0.000	0.000	0.000	1.000

**Matrix #3: Ry**

0.906	0.000	-0.424	0.000
0.000	1.000	0.000	0.000
0.424	0.000	0.906	0.000
0.000	0.000	0.000	1.000

**Matrix #6: Shear**

1.000	0.000	1.150	0.000
0.000	1.000	-0.300	0.000
0.000	0.000	1.000	0.000
0.000	0.000	0.000	1.000

**Matrix #5: Translate**

1.000	0.000	0.000	-1.000
0.000	1.000	0.000	-3.000
0.000	0.000	1.000	-10.000
0.000	0.000	0.000	1.000

**Matrix #8: Scale**


**Matrix #7: scale**
