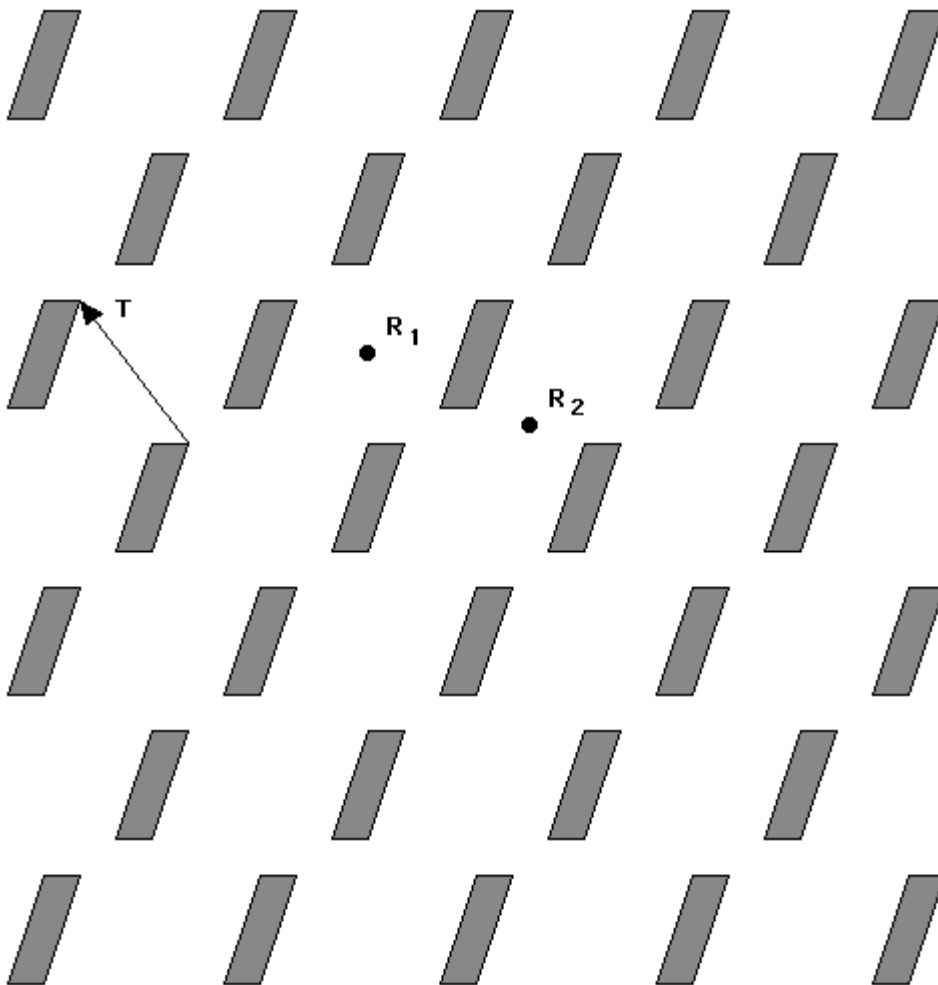


## MAT 203 -- Homework #4

In each of the following patterns, determine the indicated compositions and images.

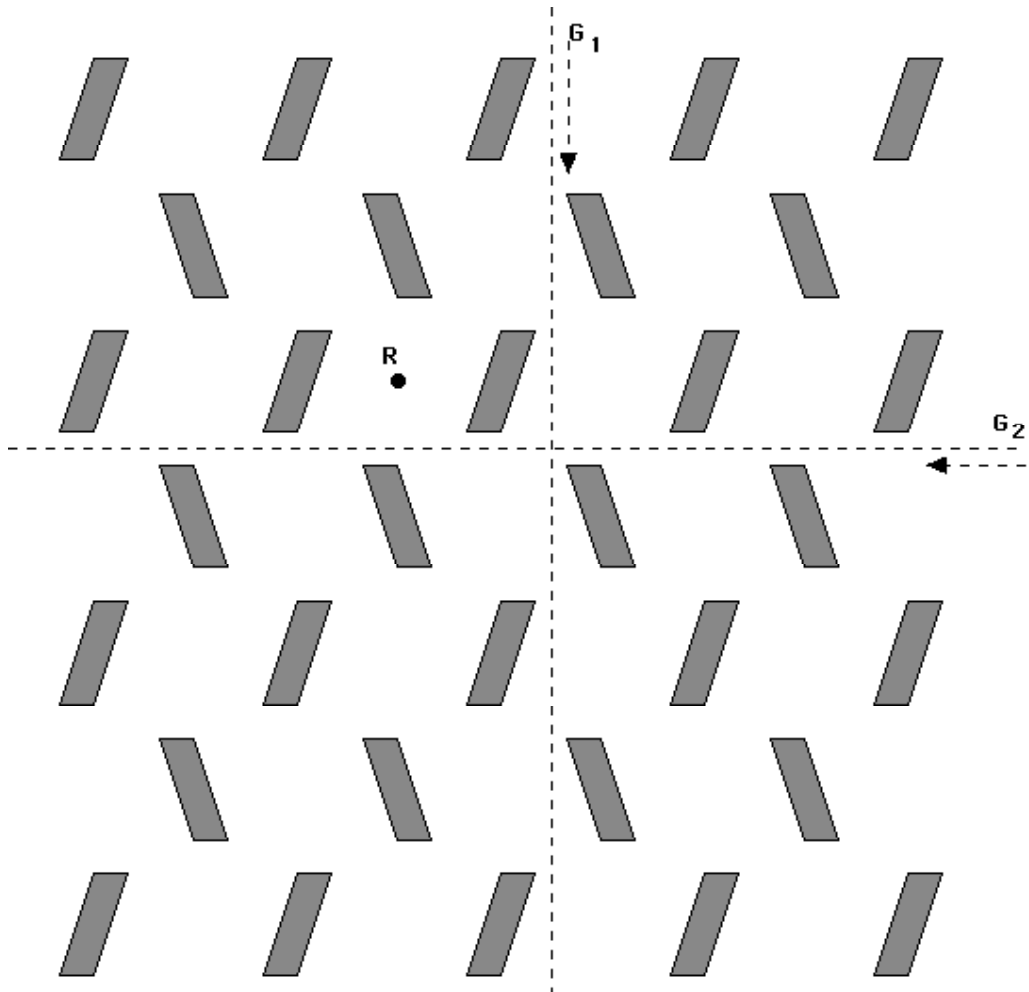
(a) [p2]

$R_2 \circ R_1$ ,  $R_2[R_1]$ ,  $T \circ R_1$ ,  $R_1[T]$



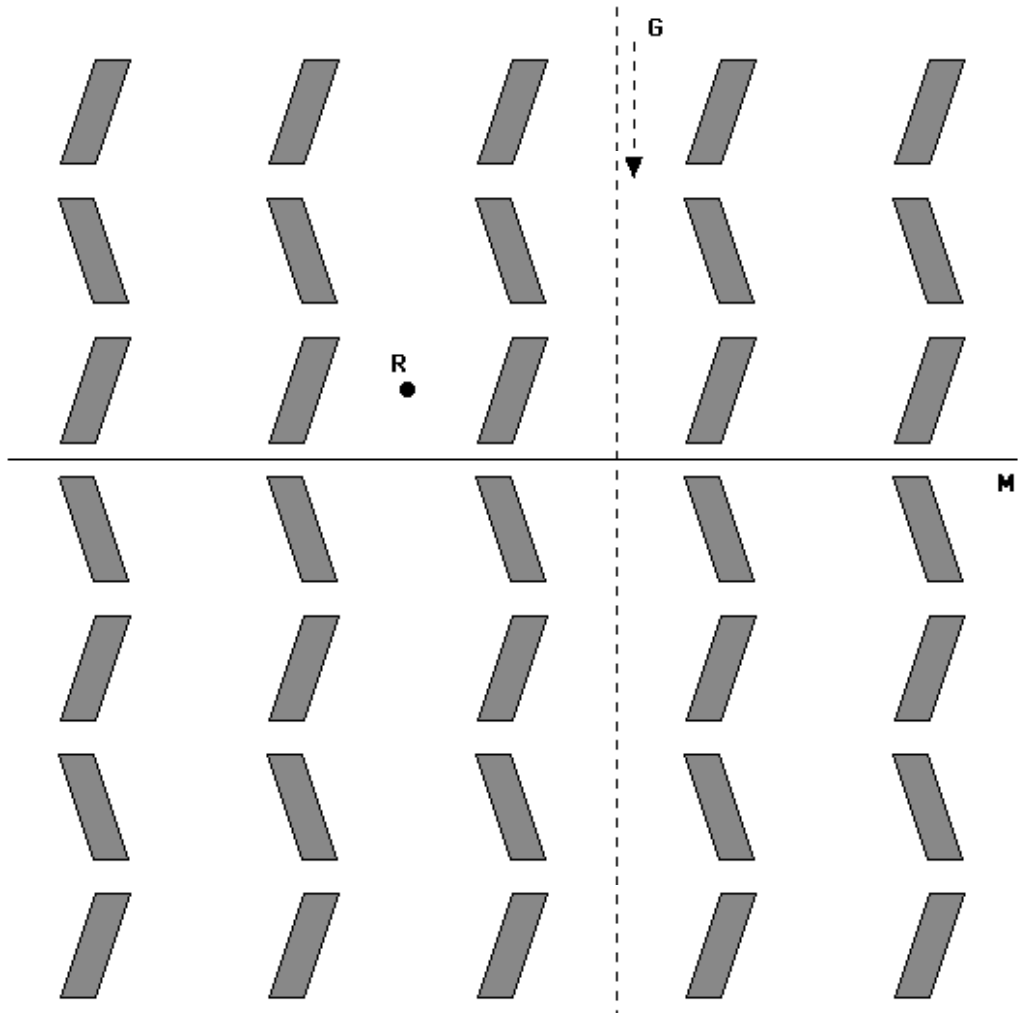
(b) [pgg]

$G_2 * G_1, G_1[G_2], R * G_1, R[G_1]$



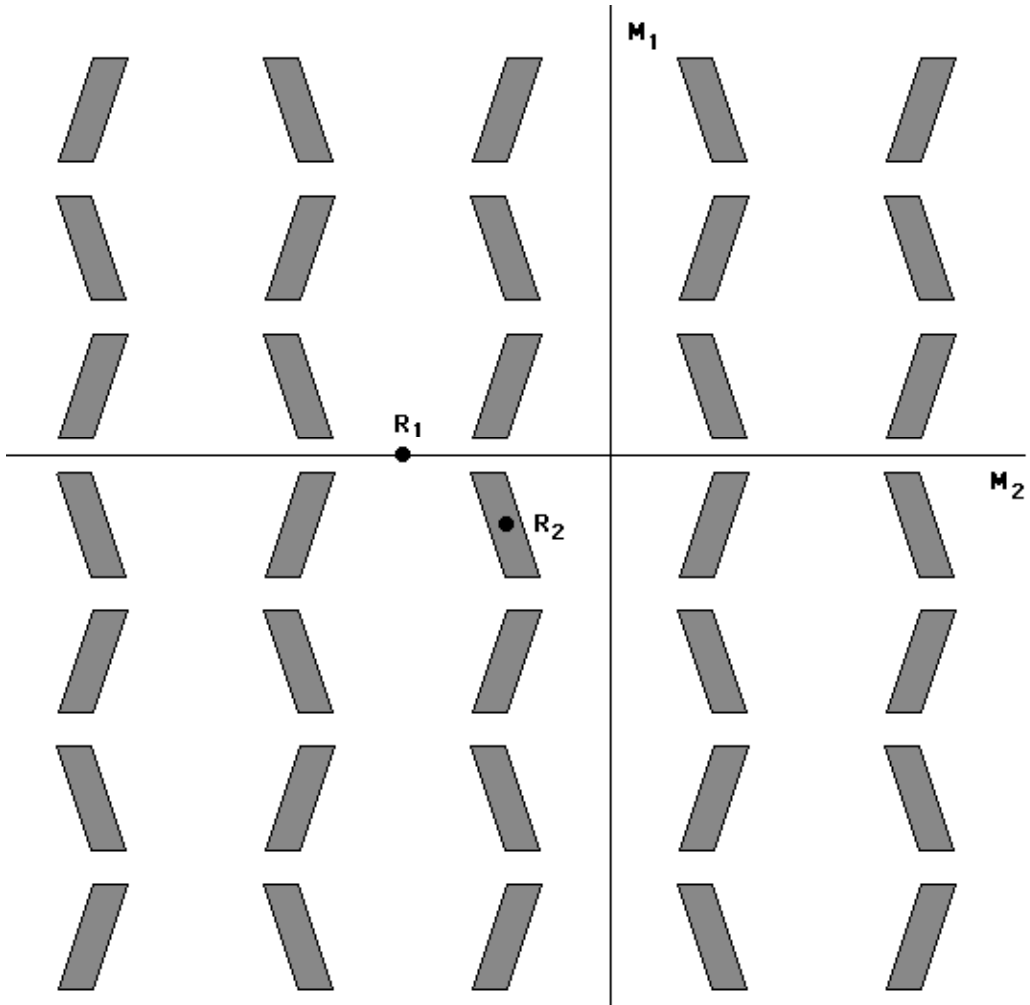
(c) [pmg]

$G[R]$ ,  $M[G]$ ,  $R \cdot G$ ,  $G \cdot M$



(d) [cmm]

$M_1 * R_1, R_2 * M_1, R_1 * M_2, R_1 [M_2]$



(e) [cmm]

$G_1 * G_2, M_1 * M_2, M_1[G_2], G_1[G_2]$

