COLLEGE of CHARLESTON
Math Meet

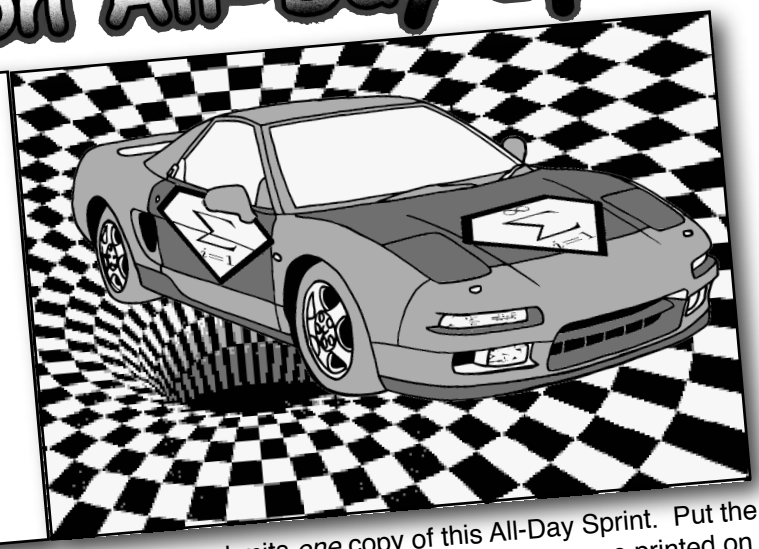
Map Translation All-Day Sprint

After Math Meet Man foiled his latest scheme, Rex Ruthless devised a plan to keep Math Meet Man going in circles - literally.

At the center of the city of Geometropolis is the Origin building. There are two kinds of streets in Geometropolis: circular streets centered at the Origin building, and east-west streets.

Rex Ruthless has hacked the MathMobile's navigation system. Now, all it can do is travel 60° counterclockwise around the circular streets and travel east on the east-west streets.

Help Math Meet Man navigate the city!!!



Each team submits *one* copy of this All-Day Sprint. Put the yellow copy (the one that has your school name printed on it) into the box in front of Maybank Hall by 2:00PM.

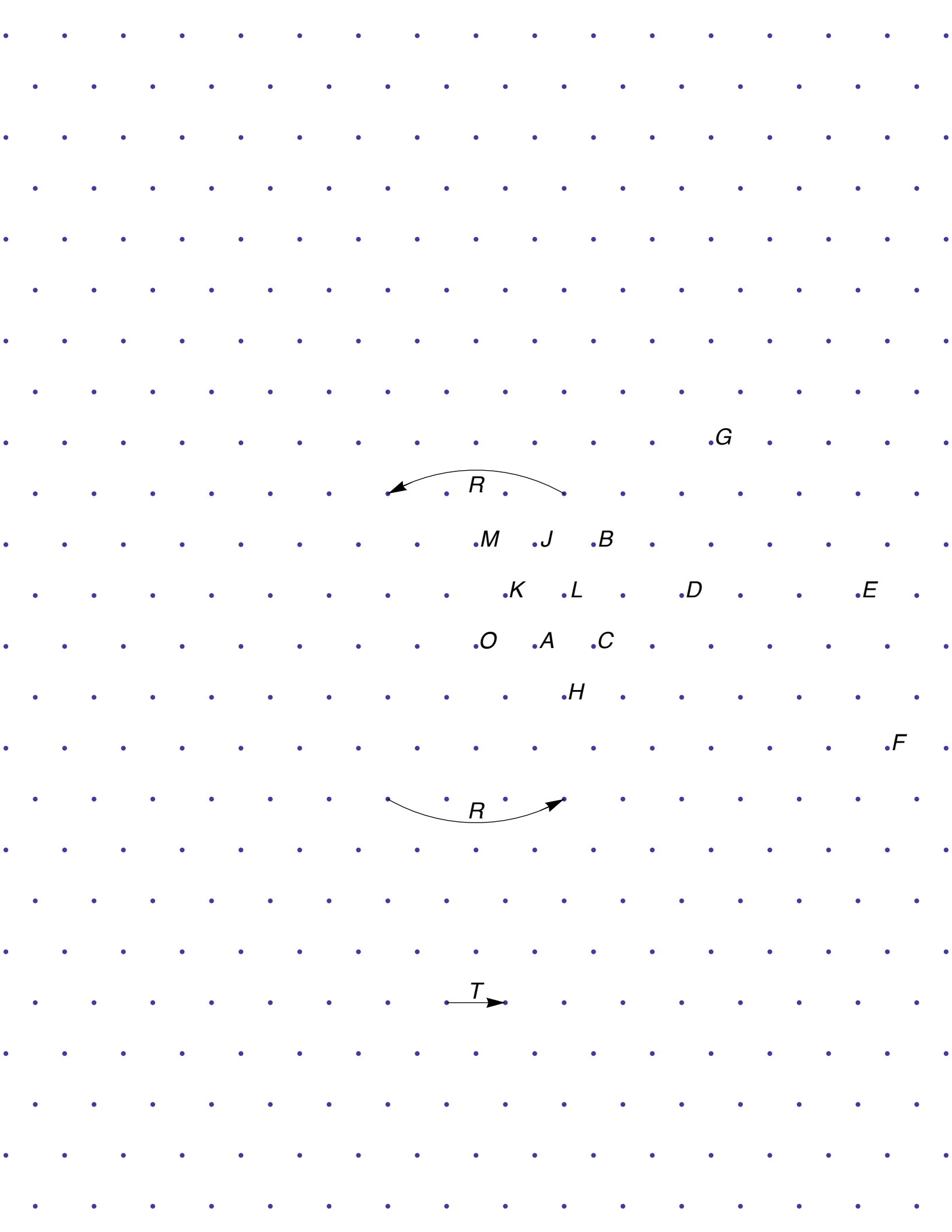
On the back of this page is a lattice of points, each of which is at distance 1 to its six nearest neighbors. The central point is labeled *O*. There are two operations that may be used to move from one point to another on this lattice:

- *T* moves you one unit to the right on the lattice.
- *R* rotates you exactly 60 degrees counterclockwise about *O*.

Using just these two operations, it's possible to move from any lattice point to any other lattice point. For example it's possible to move from the point *A* to the point *B* by using *T* (moving to *C*), then *R* (to *J*) , then *T* (to *B*). It's also possible to move from the point *A* to the point *B* by using *R* (moving to *K*), then *T* (to *L*), then *R* (to *M*), then *T* (to *J*), then *T* (to *B*). Of course, *TRT* is a shorter sequence of operations than *RTRTT*.

For each Beginning and Ending listed below, find a sequence of uses of *R* and *T* which move you from the Beginning point to the Ending point. Any correct sequence will be considered, although the winner will be selected from among those who provide the correct answers using the **fewest** operations.

Begin	End	
C	*D*	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _
E	*F*	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _
G	*A*	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _
F	*H*	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _


G
R
M
J
B
K
L
D
E
O
A
C
H
F
R
T