

# Problem of the Week

Proposed by Bernardo Ábrego and Silvia Fernández

October 24-31

$\times_2$	$\circ_2$	$\times_3$	$\circ_1$
		$\circ_3$	
$\times_4$	$\times_1$	$\circ_4$	
$\times_5$	$\circ_5$	$\times_6$	

Xochitl and Oscar play the game of “Rectangle” on a 4x4 board. Xochitl starts by placing “ $\times$ ” in a box followed by Oscar placing “ $\circ$ ”. They continue taking turns as in Tic-Tac-Toe. Xochitl wins if she has four “ $\times$ ” forming a horizontal rectangle. Oscar wins if there are no available boxes and Xochitl did not win.

Show that Xochitl has a winning strategy.

This contest is sponsored by the Mathematics Department. Open to all CSUN students.

Winner gets \$5 or an equivalent prize. All complete and correct solutions get a certificate.

Type and send your solution before October 31st, 9:00PM to [bernardo.abrego@csun.edu](mailto:bernardo.abrego@csun.edu).

All steps of the solution must be clearly justified.

For rules, winners, solutions, and more information visit: [www.csun.edu/math/probweek](http://www.csun.edu/math/probweek)