

Undergraduate Problem Solving Competition

Problem 5 - Ladder Catastrophe

Due Feb. 26, 2018

Two ladders with lengths A and B are resting in a hallway. The ladders intersect each other at height h from the ground. What is the width of the hallway, w , as a function of A , B , and h ?

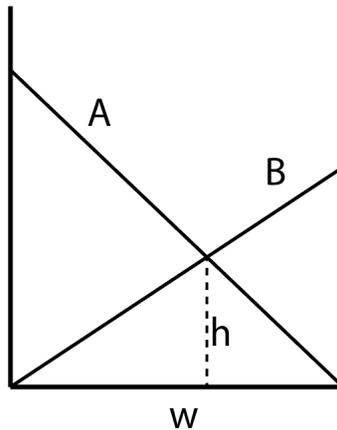


Figure 1: Crossed ladders in an hallway of width w

New and old problems are posted online at
<http://www.math.utah.edu/undergrad/involvement.php>
Next problem will be posted March 12th, 2018.

In the spirit of UPSC, you should not use the internet or look up the solution in a book. Please include your **name, student ID number, and email address** on your solution. Submit answers at the front desk of the T. Benny Rushing Mathematics Center.