# Puzzler of the Month

December 2017

From the Monroe Community College Mathematics Department

Solve this puzzle and you could win a prize!*

As shown in the figure to the right, there are three switches used to control a traffic light. Each switch has three possible settings of *a, b,* or *c*, and the specific color (green, yellow, or red) of the traffic light is completely determined by the combined settings of the switches. Your job is to determine all of the settings of the switches that result in a green light based on the following information.
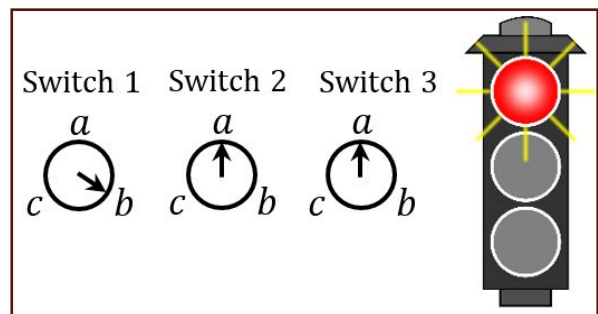
- Only one light is on for each of the settings.
- When all three switches are in the *a*-position (setting *aaa*), the light is yellow.
- When switch 1 is in the *b*-position and switches 2 and 3 are in the *a*-position (setting *baa*), the light is red.
- From any given setting, if you change the positions of all three switches, the light will change color.

Solutions must be submitted by December 15

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