
Problem of the Week

Number Ten

April 13, 2015

This is it, folks. The final problem of the semester. So how about we warm-up with a couple of problems that involve finishing things. You can start with this old chestnut:

$$\frac{AEFH I KLMNTVWXY}{BCDGJOPQRSU}$$

Should the Z go above or below the line?

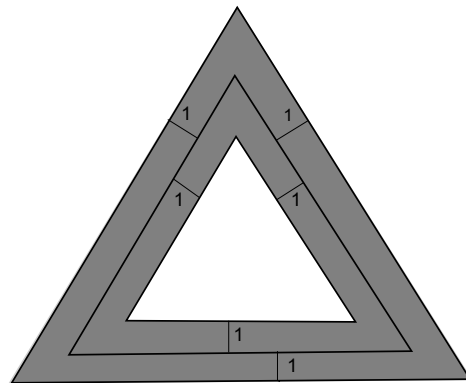
Maybe that one's too easy. So how about this one: Eight of the ten digits are included in this sequence:

8 5 4 9 1 7 6 3

Should we complete the sequence with 0 2 or 2 0?

As I said, those are just warm-ups. The problem of the week is this:

The figure to the right consists of three concentric triangles. The lengths of the sides of the middle triangle are 9, 10 and 11. Also, the distance between the sides of the middle triangle and each of the other two triangles is 1, as shown in the diagram. Find the area of the shaded region.



*Submissions are due to Jason Rosenhouse by 5:00 on Friday, April 17. Solutions should be written on the back of an official POTW handout. Place your name, e-mail address, and the section numbers and professors of any math courses you are taking, in the **upper right corner** of the front of the page. One weekly winner will receive a five-dollar gift card from Starbucks. **To be considered correct, your answer to the problem must be accompanied by a clear, concise explanation.** Solutions will be posted at this website, by the Monday after the problem is due:*

<http://educ.jmu.edu/~rosenhjd/POTW/Spring15/homepage.html>