
Problem of the Week

Number Five

February 20, 2017

This is our last POTW before spring break, so how about some algebra jokes to tide us over?

Why is algebra so easy in Rome?
Because for Romans, x is always 10!

Why was the student afraid of the y -intercept?
Because she thought she'd be stung by the b !

What do you get when you cross an algebra class with the prom?
The quadratic formal!

Why did the polynomial plant wilt?
Because its roots were imaginary!

What do you call a snake after it drinks three cups of coffee?
A hyper boa!

What wild animal is good at algebra?
The tangent lion!

Did you hear about the mathematician who's afraid of negative numbers?
He will stop at nothing to avoid them!

I put my root beer in a square glass. Now it's just beer!

Why do mathematicians like parks?
Because of all the natural logs!

That's enough of that. Time to get down to business. For our last problem before the break, I have chosen one that's more challenging than usual. But see what you can do with it! Let me suggest that multiplying everything out is not the best strategy.

Find all ordered triples (x, y, z) that satisfy the system

$$(x + y)(x + y + z) = 120$$

$$(y + z)(x + y + z) = 96$$

$$(x + z)(x + y + z) = 72$$

When you think you have the problem figured out, follow the instructions below.

*Submissions are due to Jason Rosenhouse by 5:00 on **Friday, February 24**. Solutions, complete with a brief explanation, should be written on the back of an official POTW hand-out. 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. Solutions will be posted at the POTW website:*

<http://educ.jmu.edu/~rosenhjd/POTW/Spring17/homepage.html>