

No integers allowed!

Due: November 11<sup>th</sup>

1. Show that  $15x^2 - y^2 = 9$  has no integer solutions.
2. Show that there are no nontrivial integer solutions  $(x, y, z)$  to the equation  $x^3 + 3y^3 + 9z^3 - 9xyz = 0$  (where  $(x, y, z) = (0, 0, 0)$  is the trivial solution)