UW Math Circle

Homework

1. There are 24 Geodudes, 31 Gravelers and 22 Golems in a field. Everytime two different evolutions meet, they each evolve into the third evolution. If you let all of the pokémon roam forever, will there ever be only one evolution left?

2. Ninetails desperately needs to know if 31 is a sum of three cubes. Remember, cubes can be positive or negative!