

Answer on Question #50076 – Math – Combinatorics | Number Theory

Seven bandits collected a number of gold coins. They are very worry about dividing the coins. After dividing the coins between them the first time, they found

2 coins remaining. They fought about these coins and 3 bandits died. They divided

the coins again and saw that 2 coin remains. Again they fought and another bandit

died. Now they could equally distribute the coins. At least how many gold coins were there?

Solution

The answer is 30, because this number satisfies all conditions of the problem

($30-2=28$ is divisible both by 7 and by 4, moreover, 30 is divisible by 3).

It is the least number n (because $n=2$ does not satisfy a condition on equally distributed coins among 3 bandits: n is divisible by 3) such that $n-2$ is divisible both by 7 and by 4, because $n-2$ must take the form $7*4*k=28k$.