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– Wrestlers from towns ***A*** and ***B*** participated in competition. Number of wrestlers from ***A*** is 9 more than the number of wrestlers from ***B***. Every wrestler wrestles with others and took 1 point if he won, 0 otherwise. Total point of team ***A*** is 9 more than total point of team ***B***. What is the maximum possible value of points of team ***B***?

– Medians from vertices ***A*** and ***B*** are perpendicular in a triangle ***ABC***. Show that ***AB*** is the shortest side of the triangle.

– Find all triple ***(x, y, z)*** of natural numbers satisfying the equation [i][b]$1+4^x+4^y=z^2$[/b][/i].

– Prove that $\frac{a^2}{b}+\frac{b^3}{c^2}+\frac{c^4}{a^3}\geq -a+2b+2c$ where a,b,c are positive real numbers.

– a,b,c are real numbers. Find all triangles with sides a^n,b^n,c^n for all natural number n.

– *Integer part* of a real number ***a*** is the largest integer not exceeding ***a***. Find integer part of the number $\frac{2^1}{1!}+\frac{2^2}{2!}+\cdots+\frac{2^{2018}}{2018!}$.
