Math 5b, homework 14.

1. Cities $\mathrm{A}, \mathrm{B}$, and C , together with the straight roads connecting them, form a triangle. It is known that the direct route from A to B is 200 km shorter than the detour through C , and the direct route from A to C is 300 km shorter than the detour through B . Find the distance between cities B and C.
2. One pipe can fill a pool in 11 hours and 15 minutes. Two pipes can fill it in 5 hours. How long it will take to fill the pull with only second pipe opens?
3. One pipe can fill a pool 1.25 times as fast as a second pipe. When both pipes are opened, they fill the pool in five hours. How long would it take to fill the pool if only the slower pipe is used?
4. Write the binary number in a decimal system;
a. $1110011_{2}$;
b. $1000001_{2}$;
c. $1010101_{2}$
5. Write numbers $48,78,100$ in binary system.
6. Write the ternary number (numbers in system, based on 3) in a decimal system;
a. $121_{3}$;
b. $2101_{3}$;
c. 2221
7. Write numbers $48,78,100$ in ternary system. (for all problems about numeral system, review the classwork \#2)
