

Math 429, Quiz 4.

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1. Give definitions

T_0 :

T_1 :

T_2 (Hausdorff space):

T_3 :

T_4 :

regular space:

normal space:

2. Prove that any metric space is first countable.

For any point p the collection of balls $B_{1/n}(p)$ forms a base at p