

math 464
Forth Homework
Due Date Saturday 1/ 8 / 1437, at 11:55 Pm.

Name:

Number:

Always try to justify your answer (SHORT PROOF).

Q1: Prove or disprove:

- (a) (\mathbb{R}, CF) is T_1 space, **where CF : is the cofinite topology on \mathbb{R} (see page 4).**
- (b) (\mathbb{R}, CF) is T_0 space.
- (c) (\mathbb{R}, I) is T_2 space.
- (d) (\mathbb{R}, D) is T_4 space.

Q2: Show that:

- (i) T_0 is a topological property.
- (ii) T_0 is hereditary.

Good Luck :)