§12.a Semi continuity [2CV]

Let (X, τ) be a topological space. We define "liminf" and "limsup" generalizing the definition already presented in [20F] when $X = \mathbb{R}$.

Definition 12.1. [2GW]

Definition 12.2. [138]

Note that f is *lower semi continue* if and only if $(-f)$ is *upper semi continue*: so in many subsequent exercises we will only see cases *l.s.c.* cases.

Exercises

E12.3 [139]

E12.4 [13C]

E12.5 [13D]

E12.6 [13G]

E12.7 [13J]

E12.8 [13M]

E12.9 [13P]

E12.10 [13R]

E12.11 [13T]

E12.12 [13W]

E12.13 [13Y]

E12.14 [13Z]