

This note, that [was found here](#), as a part of [a collection](#) is written (completely with human hands) by [Rupadarshi Ray](#), was created on August 29, 2023 10:19:58 AM, was last modified on May 17, 2026 7:37:12 PM, and was exported on September 7, 2026 3:25:02 PM.

## Metric subspaces

$(M, d_M)$  be a metric space,  $S \subseteq M$  then

$$(S, d|_{S \times S})$$

is the metric subspace of  $(M, d_M)$ .

### Definition. Metric subspaces

By

$(M, d_M)$  be a metric space,  $S \subseteq M$  then

$$(S, d|_{S \times S})$$

is the metric subspace of  $(M, d_M)$ .

we define

$$(S, d|_{S \times S})$$

to by a **metric subspace** of  $(M, d)$  and the metric the **subset metric**.

Let  $(M, d)$  be a metric space.  $S \subseteq M$  then  $V \subseteq S$  is an *open/closed subset in subspace* metric  $d_S \iff$

$$V = U \cap S$$

for some *open/closed set*  $U$  in  $(M, d)$

Current note has 0 direct children and 0 total descendants.

- structures based on sets
  - Metric spaces
    - Metric subspaces

And it has 11 siblings.

- structures based on sets
  - Metric spaces
    - Set of all metrics on a set
    - CAT(0).
    - Space of all compact metric spaces up to isometry.
    - $Y^X$
    - Gromov hyperbolic spaces
    - Metric space isometries
    - Constructing more metrics
    - Metric spaces
    - Metric simplicial complexes
    - Metric subspaces
    - Uniformly discrete spaces of bounded geometry.