

$$\int_M d\omega = \int_{\partial M} \omega$$



## Metric spaces: completeness

**Question #1** For any interval  $I \subset \mathbb{R}$ ,  $C_b(I)$  is the space of bounded continuous functions on  $I$ , whereas  $P(I)$  is the space of polynomials with domain  $I$ . Which of the following metric spaces is complete?

- (A)  $C_b(I)$  with the sup norm;
- (B)  $C_b(I)$  with any  $p$ -norm;
- (C)  $P((0, 1))$  with the sup norm;
- (D)  $P((0, 1))$  with any  $p$ -norm;
- (E)  $P([0, 1])$  with the sup norm;
- (F)  $P([0, 1])$  with any  $p$ -norm;
- (G) none of the above is complete.

