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A remark on the Bourgain-Brezis-Mironescu characterization of constant functions. (English) Zbl 1459.26006

Houston J. Math. 46, No. 1, 113-115 (2020).

Summary: The purpose of this paper is to describe a simple proof for a result originally presented by *H. Brezis* [Russ. Math. Surv. 57, No. 4, 693–708 (2002; [Zbl 1072.46020](#)); translation from Usp. Mat. Nauk 57, No. 4, 59–74 (2002)], with roots in a paper by *J. Bourgain* et al. [in: Optimal control and partial differential equations. In honour of Professor Alain Bensoussan’s 60th birthday. Proceedings of the conference, Paris, France, December 4, 2000. Amsterdam: IOS Press; Tokyo: Ohmsha. 439–455 (2001; [Zbl 1103.46310](#))].

MSC:

[26A30](#) Singular functions, Cantor functions, functions with other special properties

[46E35](#) Sobolev spaces and other spaces of “smooth” functions, embedding theorems, trace theorems

Cited in **2** Documents

Keywords:

[characterization of constant functions](#); [convex functions](#)

Full Text: [Link](#)

References:

- [1] H. Brezis, How to recognize constant functions. Connections with Sobolev spaces, (Russian) Uspekhi Mat. Nauk 57 (2002), 59-74; translation in Russian Math. Surveys 57 (2002), 693-708. · [Zbl 1072.46020](#)
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- [3] H. Brezis; P. Mironescu, Sobolev maps with values into the circle, Birkhäuser, In preparation.
- [4] G. De Marco; C. Mariconda; S. Solimini, An elementary proof of a characterization of constant functions, Adv. Nonlinear Stud. 8 (2008), no. 3, 597-602. · [Zbl 1161.46018](#)
- [5] R. Ignat, On an open problem about how to recognize constant functions, Houston J. Math. 31 (2005), 285-304. · [Zbl 1082.46022](#)

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