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Eyob S Demeke* (edemeke@calstatela.edu), Department of Mathematics, 5151 State University Dr, Att: Dr. Eyob Demeke, Los Angeles, CA 90032-8204. *Mathematics PhD students' interpretation of explanatory proofs.*

Proofs are crucial in conveying mathematical knowledge. Both mathematicians and mathematics educators have argued that a proof is more valuable to students when it explains why a theorem is true. In this contributed report, I discuss attributes of explanatory proofs that eleven doctoral students in mathematics described. Doctoral students in this study interpreted the nature of mathematical explanation in the context of a proof in a wide range of ways. In particular, these participants expressed that they are more likely to consider a proof more explanatory when it succeeds in providing (a) insight into the derivation of certain formulas, (b) intuition as to why the theorem is true, or (c) insight into how the author or the reader could have discovered the proof in practice. (Received August 24, 2017)