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Zengxiang Tong* (ztong@otterbein.edu), Mathematical Sciences Department, Otterbein College, Westerville, OH 43081, and Zhen Huang (zhuang@otterbein.edu), Mathematical Sciences Department, Otterbein College, Westerville, OH 43081. The Extended Law of Total Probability. Preliminary report.

The law of total probability is a powerful technique in solving probability problems. However, it is not emphasized enough in most probability textbooks. This paper presents two extended forms of the law of total probability, related with discrete and continuous random variables. This paper also uses several examples to show the power and advantage of applying the extended law of total probability in solving difficult problems. (Received September 01, 2009)