1056-11-1738 **John R. Greene*** (`jgreene@d.umn.edu`), University of Minnesota Duluth, Department of Mathematics and Statistics, 1117 University Drive, Duluth, MN 55812, and **Melissa Larson**. *An elementary approach to proving and discovering BBP-type formulas.*

We consider formulas of the form

$$\sum_{k=0}^{\infty} x^{nk} \left(\frac{a_1}{nk+1} + \frac{a_2}{nk+2} + \cdots + \frac{a_n}{nk+n} \right) = \alpha,$$

which are a special case of what are refered to as BBP-type formulas. We show that all such formulas can be verified by evaluating appropriate definite integrals of rational functions. We give some infinite classes of formulas of this type and discuss how to combine them so as to obtain "nice" formulas for π. (Received September 22, 2009)

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