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**Thomas R. Hagedorn\*** (hagedorn@tcnj.edu), Department of Mathematics and Statistics, The College of New Jersey, P.O. Box 7718, Ewing, NJ 08628. *On Computing A Minimal Generating Set of Covariants for a Binary Form of Degree 10*. Preliminary report.

One of the central problems in 19th century algebra was determining the minimal number of generators for the ring of invariants (resp. covariants) for a binary form of degree  $n$ . Hilbert famously showed that the ring was finitely generated, but the minimal number of generators needed for invariants (resp. covariants) was only known for  $n \leq 8, n \neq 7$  (resp.  $n \leq 6$ ) until recently. Bedratyuk (2007) has extended these calculations to  $n \leq 8$  in both cases. We have verified these calculations and report on progress for the case  $n = 10$ . (Received September 20, 2007)