1067-03-1581 **Jeffry L. Hirst\*** (jlh@math.appstate.edu), Department of Mathematical Sciences, Appalachian State University, Boone, NC 28608, and **Carl Mummert**, Mathematics Department, Marshall University, One John Marshall Drive, Huntington, WV 25755. *Reverse mathematics and constructive analysis.* 

When certain statements are provable in subsystems of constructive analysis using intuitionistic predicate calculus, related sequential statements are provable in weak classical subsystems. For example, for formulas  $\Phi$  of a special sort, if a sentence  $\forall X \exists Y \Phi(X, Y)$  is provable using E-HA<sup> $\omega$ </sup>, then the related sequential form

 $\forall \langle X_n \mid n \in \mathbb{N} \rangle \; \exists \langle Y_n \mid n \in \mathbb{N} \rangle \; \forall n \; \phi(X_n, Y_n)$ 

is provable in RCA. We call our theorems "uniformization results" because the provability of the sequential form demonstrates a kind of uniformity in the proof of the original sentence. The contrapositives of these uniformization results allow us to apply techniques of reverse mathematics to show the non-provability of statements in constructive axiom systems. (Received September 21, 2010)