***Individual work. Open book and open notes. Remember to show and explain enough of your work to prove to me that you know the procedure, not just the answer. Computer checks of your work, where applicable, are optional (but encouraged).***

1. The total relativistic energy of a particle is



Compare this equation with the classical kinetic energy, .

1. Verify equations 13.1, 13.2, and 13.4 on page 26 of Boas

(Section 13) by applying a Maclaurin series expansion for each

function.

1. Evaluate

.

Do these Boas problems:

1.10.14

2.5.20

3.3.17

4.4.3

5.4.17

6.10.2

7.11.4

Do this B&F problem:

9.3