Time: 20 minutes   Name: _____

Instructor: Dr. Edward Doolittle   Student #: _____

(marks)   Please do questions 1 and 2. You have 10 minutes to do each question, for a total of 20 minutes for the quiz. A non-programmable calculator of the type mentioned in the course outline is allowed. If you finish early, I suggest you check your work thoroughly. **Please do not disturb your colleagues by climbing over them while they are trying to write the quiz.**

(10)   1. Evaluate $\displaystyle\int_2^6 \frac{x}{\sqrt{1+4x}}\,dx$

(10)   2. Find a function f and a number a such that

$$6 + \int_a^x \frac{f(t)}{t^2}\, dt = 2\sqrt{x}$$

for all $x > 0$.