**QUESTION 1**

Suppose that a company invests $60,000 in a project. The project generates a cash inflow

of $30,000 a year for each of 3 years and nothing thereafter. Book income in each

year is equal to this cash flow *less* an allowance for depreciation of $20,000 a year. For

simplicity, we assume there are no taxes.

a. Calculate the project’s internal rate of return. (If you do not have a financial calculator

or spreadsheet program, this will require a little trial and error.)

b. Now calculate the book rate of return in each year by dividing the book income for

that year by the book value of the assets at the start of the year.

**QUESTION 2**

Machines F and G are mutually exclusive and have the following investment and operating

costs. Note that machine F lasts for only 2 years:

**Year: 0 1 2 3**

F 10,000 1,100 1,200 —

G 12,000 1,100 1,200 1,300

Calculate the equivalent annual cost of each investment using a discount rate of 10 percent.

Which machine is the better buy?

Now suppose you have an existing machine. You can keep it going for 1 more year

only, but it will cost $2,500 in repairs and $1,800 in operating costs. Is it worth replacing

now with either F or G?