buying the radio?

8-26 A group of medical professionals is considering constructing a private clinic. If patient demand for the clinic is high, the physicians could realize a net profit of $100,000. If the demand is low, they could lose $40,000. Of course, they don't have to proceed at all, in which case there is no cost. In the absence of any market data, the best the physicians can guess is that there is a 50–50 chance that demand will be good.

(a) Construct a decision tree to help analyze this problem. What should the medical professionals do?

(b) The physicians have been approached by a market research firm that offers to perform a study of the market at a fee of $5,000. The market researchers claim that their experience enables them to use Bayes' theorem to make the following statements of probability:

probability of high demand given a positive study result = 0.82
probability of low demand given a positive study result = 0.18
probability of high demand given a negative study result = 0.11
probability of low demand given a negative study result = 0.89
probability of a postive study result = 0.55
probability of a negative study result = 0.45

Expand the decision tree in part (a) to reflect the options now open with the market study. What should the medical professionals do now?