#1-169A

EASY INTERMEDIATE HARD

# CFA® SAMPLE QUESTION – LEVEL I

## Alternative Investments

**Q:** An investor makes a $3 million investment in a venture capital project that has an expected payoff of $8 million at the end of four years. The cost of the capital is 10%.

If the conditional annual failure probabilities over the first four years are 10%, 20%, 15% and 10%.

What is the expected NPV of this investment?

**CORRECT ANSWER:**

Ⓒ $9,630

Let find out the NPV if successful (i.e. can survives after four years)
The NPV is $8 million/(1.10)^4 - $3million = $2,464,108

Next we have the probability of surviving four years is (0.9)(0.8)(0.85)(0.9) = 0.5508
The NPV if project failed is -3 million (i.e. the initial cash outflow investment)

So the expected NPV for the investment is:
0.5508 x $2,464,108 + (1-0.5508) x (-$3,000,000) = 9,630

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