Real Options–1 Sample Quiz Question

David Testa, the chief operating officer of Mesa Air is considering starting up charter-like flight service serving wealthy Scottsdale residents and New Yorkers. He has landing rights at Scottsdale airport and Laguardia. The biggest problem that he faces is that he doesn't have a good sense of what demand will be. If demand is high, then his airline will generate an annuity for 8 years of $45 million (per year). David puts the probability of this at 20%. Expected demand would generate an annuity for 8 years of $30 million (per year). The probability of this state of nature is 50%, according to David. The low demand state would result in an annuity for 8 years of $9 million (per year). David assigns a 30% probability to this state of nature. Whichever state accurately describes demand will be known at the end of 1 year. An 8-year airplane lease can be capitalized with a cash outlay of $150 million for 2 jets, that would enable Mesa to introduce and maintain this new service. Boeing offers a lease-termination option which would allow Mesa to terminate the leases after one year, at which point Boeing would return $120 million. The cost of this option for the 2 planes is $10 million.

Mesa Air is 100% equity-financed. Its cost of equity is 9.5%.

What should Mesa do?