Quiz B: 08/08/14 Name ____________________________

Your boss has asked you to determine how being able to expand a proposed facility will affect the value of the facility. Set up the calculations needed to provide her with an answer.

Information on the facility:
Cost to build facility = $105 million
Present value today of the facility's cash flows: first three years = $30 million; first four years = $75 million; all seven years = $135 million
Life of factory = seven years
Proceeds if sell factory at any time over the next four years = $45 million
Standard deviation of returns on factory: first year = 30%; first three years = 35%; first four years = 38%; all seven years = 40%

Information on possible expansion of the facility:
Cost to expand at any time over the next three years = $30 million
Present value of expansion's cash flows: PV at the time of expansion = $28.5 million; PV today = $24 million
Life of expansion = seven years (once built)
Standard deviation of returns on expansion: over next three years = 45%; over next ten years = 50%

Returns on U.S. Treasuries: 1-year = 1.5%; 2-year = 2%; 3-year = 2.5%; 4-year = 3%; 5-year = 3.5%; 7-year = 4%; 8-year = 5%; 10-year = 5.5%