

Session 13a: Post class test solutions

1. **c. High capital expenditures, low depreciation, increasing working capital**
 - For cash flows to be negative, with positive earnings, you have to be reinvesting a lot. Reinvestment is comprised of two elements: the difference between cap ex and depreciation (net cap ex) and the effect of working capital (with increases draining cash flows).
2. **b. 15%.** The return on capital is computed using after-tax operating income and book value of invested capital (book value of equity + book value of debt – cash)
 - Return on invested capital = $100 (1-.4) / (300+150-50) = 15\%$
3. **d. 15%.** The first step is to compute the average capital invested over the life of the investment. The starting book value of capital invested is \$100 million and the ending book value is \$20 million. Since straight line depreciation is used, the average capital invested over the period will be \$60 million = $(100+20)/2$
 - Dividing the after-tax operating income by this number will yield the average return on capital (approximately)
 - Return on capital = $9 / 60 = 15\%$
4. To compute the cash flows, you first have to compute the depreciation each year: Depreciation = $(150-30)/5 = 24$. The change in working capital over the previous year also has to be computed. The salvage value will be the sum of the salvage value of the initial investment (\$30 million) and the working capital (\$30 million)

	Now	1	2	3	4	5
Initial Investment	-150					
After-tax Operating Income		\$100	\$120	\$135	\$145	\$150
+ Depreciation		24	24	24	24	24
- Change in working capital		20	4	3	2	1
+ Salvage value						60
After-tax cash flow	-150	104	140	156	167	233

5. **d. \$29.5 million.** Since these are after-tax cash flows, you have to add back the after-tax fixed cost portion of the G&A (75% of the allocated amount) to get to the corrected cash flow
 - Corrected cash flow = \$25 million + \$7.5 million (1-.4) = \$29.5 million