



Supplemental Instruction Handouts

# Business Math

## Chapter 16:

### Business Investment Decisions

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1. Delaney can lease an automobile for five years at \$500 per month payable at the beginning of each month, or purchase it for \$28,000. She can obtain a loan at 9.75% compounded monthly. Should she lease or buy the car if the resale value of the car is \$5,000?
2. The introduction of a new product will require expenditures of \$250,000 today and \$150,000 in one year. The product will then produce profits of \$125,000 for the next five years. Should the firm proceed with the production of the new product if the investment requires an annual rate of return of 15%?
3. What if in the last question the required annual rate of return was 10%?
4. A proposed strip mine would require the investment of \$2 million at the beginning of the first year and a further investment of \$3 million at the end of the first year. Mining operations are expected to yield annual year – end profits of \$1 million starting in year 2. The ore body will sustain 10 years of mining operations. At the end of the last year of operations, the mining company would also have to spend \$1 million on environmental restoration. Would the project provide the mining company with a rate of return exceeding 15% cost of capital?
5. A capital project would require an immediate investment of \$150,000 and a further investment of \$40,000 on a date four years from now. On the operating side, the project is expected to lose \$30,000 in the first year and \$10,000 in the second, break even in the third year, and to turn annual profits of \$70,000 in years 4 to 7 and \$40,000 in years 8 to 10. The estimated residual value at the end of the tenth year is \$50,000. Is the project acceptable if a return on investment of 15% is required?