

Math 1743 - Math Center Worksheet
Section 1.6

1. Find the future value of \$500 invested for 2 years compounded monthly at 9% APR.

2. How long will it take a sum to double with an APR of 4.75% compounded continuously?

3. Which investment is better, one with an APR of 7.2% compounded quarterly, or one with an APR of 7.0% compounded continuously?

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Section 1.7

A music shop purchases music CDs from music distributors at an average price of \$10.95/CD. On average, they sell each music CD at \$15.99 to their customers. Also, the monthly overhead cost of this store is \$5750.

- a. Find the monthly total cost and monthly revenue functions assuming they buy x CDs from the distributor and sell them all that month.

Total cost

Revenue

- b. Based on purchasing and selling prices from above, how many CDs must they sell monthly in order to break-even?

- c. How many CDs must be sold monthly to generate a monthly profit of \$7500?

- d. Find the average cost per CD using the number of CDs from part c.

Math 1743 - Math Center Worksheet Section 1.9

A discount store has calculated from past sales data the weekly revenue resulting from the sale of blenders:

# blenders	4	7	10	13	16	19	22
revenue (dollars)	114	247	356	418	451	446	412

a. Find a complete quadratic model, $R(x)$ for this data.

b. What is the revenue when 20 blenders are sold?

c. Describe the concavity of the model.

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Section 1.11

The table shows the number of Coca-Cola Company employees from 1987 through 1996:

year	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
thousands employees	17.40	18.70	20.96	24.00	28.90	31.30	34.00	33.00	32.00	26.00

a. Find a complete cubic model.

b. Estimate the number of employees in 1997.

c. Use limit notation to describe the end behavior of the graph of this model.

d. Describe the concavity of the graph of this model.