Name _____

9-4A Lesson Master

USES Objective H

1. A biology experiment starts with 8 cells.
Three days later, there are 38 cells. Find
an exponential equation for the number of
cells *c* after *n* days. Assume the growth rate
is constant.

_____

2. Kari wants to buy a used car, and decides on a
Toyota Corolla. She gathers price data about
used Corollas as shown at the right.

a. Find an exponential model to fit the data.

_____

b. Kari has $4000 saved and her parents
will match it with another $4000.
What age car should she look for?

_____

Age (years)	Price ($)
2	14,500
4	12,400
5	11,400
8	6600
10	5200
15	2750

3. The table at the right shows the global
atmospheric concentration of CO_2 since
1870. The units are parts per million (ppm).
This concentration is very closely tied to
global temperatures.

a. Fill in the next two columns.
Use 280 ppm (the approximate
average concentration for the years
1000–1850) for the baseline value.
The first three rows are done for you.

b. Using *Year After 1870* for *x* and CO_2
Above Baseline for *y*, find an exponential
model to fit the data.

_____

c. Use your equation to predict the
concentration of CO_2 in Earth's
atmosphere in the year 2050.

_____

Year	CO_2 (ppm)	Year After 1870	CO_2 Above Baseline
1870	288	0	8
1880	290	10	10
1890	291	20	11
1900	293		
1910	294		
1920	297		
1930	300		
1940	304		
1950	309		
1960	320		
1970	328		
1980	340		
1990	353		
2000	370		
2007	383		