

(Answers to the problems listed on this page, that we work in class, are on the answer key page.)

Lesson 3. Pages 244-248 Work: 1, 2, 6.

Then do problem 4, and extend the idea.

Suppose something halves every five years. How can we characterize this?

| year | t | N | D | D revised |
|------|----|---|----------|-----------|
| 1975 | 0 | 0 | 41 | 41 |
| 1980 | 5 | 1 | 20.5 | 21 |
| 1985 | 10 | 2 | 10.25 | 10 |
| 1990 | 15 | 3 | 5.125 | 5 |
| 1995 | 20 | 4 | 2.50625 | 3 |
| 2000 | 25 | 5 | 1.253125 | 1 |

t = years since 1975

n = number of five-year periods since 1975

D = predicted number of days from the pattern

D revised = prediction, revised as rounded to the nearest day

For problem 4, we found $D(n) = 41\left(\frac{1}{2}\right)^n$.

But n is a rather inconvenient variable. Notice that t is a much more satisfactory variable – much easier

to interpret. And $\frac{t}{5} = n$. So we can re-write the formula we found for problem 4 as $D(t) = 41\left(\frac{1}{2}\right)^{\frac{t}{5}}$.

With this formula, we can actually predict the number of days for other years besides just those that are in five-year increments after 1975.

What we have just noticed here is basically the entire Lesson 4.

Lesson 4: pages 256-259. Do 1a, 1e, and 1f. Then do 1b and 1c. Look at problem 8.

If you need help reviewing the laws of exponents, look at <http://www.purplemath.com/> Under Beginning Algebra topics, see Exponents. Look at the first two pages, which are the basic rules and the first page of discussion of negative exponents.

Homework: Lesson 3, page 244-248: 3, 5, 8, 10

Lesson 4, page 256-259: 2, 3, 5, 7, 8

Lesson 4 Instructions:

For 3 make a table with years which are multiples of 12. Then write the formula.

For 5, just determine the doubling time and write the verbal description.

For 7, make a table with convenient values for the years. You decide what are convenient values. Then write the formula.

Quiz: (4 problems)

Lesson 3 pages 244-248. 9, 11

Lesson 4 pages 256-259. 4, 6

For 4, only the verbal description and table are required.

For 6 only the table and formula are required.