

Name _____ Due Date _____ Period _____

9.2 Exponential equations from Tables

Find the growth factor associated with the percent change.

Percent Change	45%	30%	90%	20%	200%
Growth Factor					

Explain in general, how you turn a percent change, into a growth factor.

Find the percent change associated with the given growth factor.

Percent Change					
Growth Factor	1.5	1.75	1.05	2	2.8

Explain in general, how you find the the percent change, from a growth factor.

Decide if each table is exponential growth or decay. To find the exponential growth or decay factor, divide each y-coordinate by the previous y-coordinate. Then find the growth or decay rate.

1. Exponential growth or decay? Factor: _____ Rate: _____ or _____ %

x	1	2	3	4	5
y	6	18	54	162	486

2. Exponential growth or decay? Factor: _____ Rate: _____ or _____ %

x	0	1	2	3	4
y	100	25	6.25	1.5625	.390625

3. Exponential growth or decay?

Factor: _____

Rate: _____ or _____ %

x	0	1	2	3	4
y	\$500	\$550	\$605	\$665.50	\$732.05

4. Exponential growth or decay?

Factor: _____

Rate: _____ or _____ %

Supply of Trees

Year	0	1	2	3	4	5	6	7	8
Trees Remaining	10,000	9,502	9,026	8,574	8,145	7,737	7,350	6,892	6,543

5. Exponential growth or decay?

Factor: _____ ; Rate: _____ or _____ %

6. Exponential growth or decay?

Factor: _____ ; Rate: _____ or _____ %

x	0	1	2	3	4	5
y	$\frac{1}{16}$	$\frac{1}{4}$	1	4	16	64

Growth of Elk Population

Time (yr)	Population
0	30
1	57
2	108
3	206
4	391
5	743

CHALLENGE: Jeff's wealthy uncle wants to donate money to Zak's school for new computers. He suggests three position plans. Write an equation for each plan, then determine which plan would Zak's uncle donate the most money.

Plan 1: He will continue the pattern in this table until day 12.

Day	1	2	3	4
Donation	\$1	\$2	\$4	\$8

Plan 2: He will continue the pattern in this table until day 10.

Day	1	2	3	4
Donation	\$1	\$3	\$9	\$27

Plan 3: He will continue the pattern in this table until day 7.

Day	1	2	3	4
Donation	\$1	\$4	\$16	\$64