

Represent the situation by equation, table, & graph

Ms. Lutsic bought a vintage Jonas Brothers album for \$10.00. The album decreases by 5% each year.

### Equation

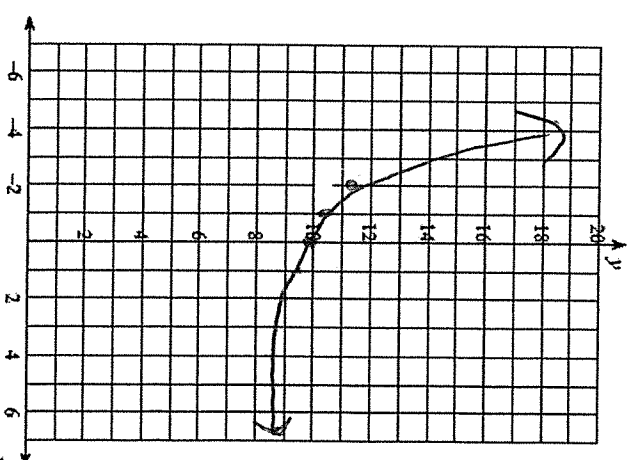
$$1 - .05 = .95$$

$$y = 10(.95)^x$$

### Table

x	y
-2	11.08
-1	10.53
0	10
1	9.5
2	9.025

### Graph



Zein bought a toy car worth \$6. It decreases in value by 15% each year.

### Equation

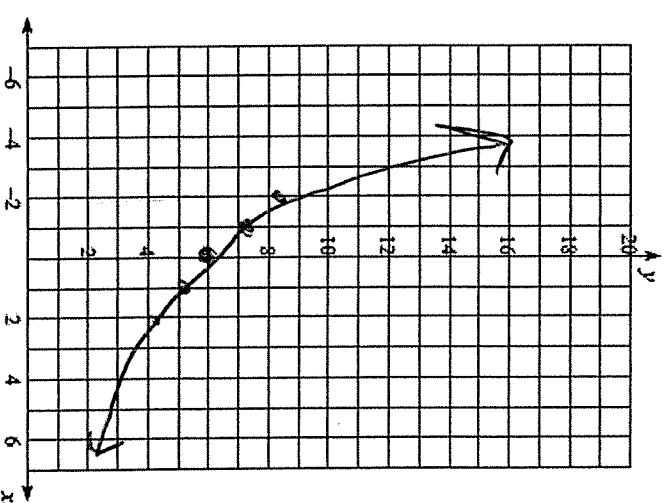
$$1 - .15 = .85$$

$$y = 6(.85)^x$$

### Table

$x$	$y$
-2	8.3
-1	7.06
0	6
1	5.1
2	4.3

### Graph



Convert the percentages to decimals.

14%	.06%	3.65%	6%	2.5%
.14	.0006	.0365	.06	.025
55%	33.2%	.066%	6.433%	14.2%
.55	.332	.00066	.06433	.142

Convert the following

50 days to years $10/73$ year	19 months to years $19/12$ year	8 years to months $8 \times 12 = 96$ months	26 hours to days $\frac{26}{24} = 13/12$ days	4.8 days to hours $4.8 \times 24 = 115.2$ hours
22 minutes to hours $\frac{22}{60} = \frac{11}{30}$ hour	5.9 hours to minutes $5.9 \times 60 = 354$ min	77 months to years $\frac{77}{12} = 6.42$ years	9 years to months $9 \times 12 = 108$ months	41 hours to days $\frac{41}{24} = 1.7$ days

Find the growth or decay rate for each percentage

Growth of 12% $1 + .12 = 1.12$	Decay of 12.1% $1 - .121 = .879$	Increasing by 18.3% $1 + .183 = 1.183$	Decreasing by 0.03% $1 - .0003 = .9997$
Appreciate by 7.9% $1 + .079 = 1.079$	Depreciate by 2.73% $1 - .0273 = .9727$	Grows by .011% $1 + .00011 = 1.00011$	Decays by 4.3% $1 - .043 = .957$

Name:

Date:

3.

x	0	1	2	3	4	5	6	7	8
y	2.5	5	10	20	40	80	160	320	640

a. Fill in the table above.

b. To move to the right in the table, you multiply by 2.c. The starting amount is 2.5.d. The function formula is  $y = 2.5(2)^x$ 

4.

x	0	1	2	3	4	5	6	7	8
y	1/6	1	6	36	216	1296	7776	46656	279936

a. Fill in the table above.

b. To move to the right in the table, you multiply by 6.c. The starting amount is 1/6.d. The function formula is  $y = (1/6)(6)^x$ 

The next three problems are harder because the # you multiply by is NOT a whole number.  
To figure out what that number is, take a y and divide by the number directly before it.

5.

x	0	1	2	3	4	5	6	7	8
y	10	7.5	5.625	4.21875	3.16	2.37	1.78	1.33	1.00

a. Fill in the table above.

b. To move to the right in the table, you multiply by .75.c. The starting amount is 10.d. The function formula is  $y = 10(.75)^x$