3.1/3.4 Re-Teach Worksheet

Intermediate Algebra

Name Key

3.1	*I can demonstrate understanding about exponential functions and compare situations and equations for exponential functions to those for linear functions.*
3.4	*I can demonstrate understanding of the significant features of a graph of an exponential function and their relationship to real-world situations.*

For each of the following problems identify the type of change as linear or exponential. Explain your reasoning.

1)

x	y
1	64
2	16
3	4
4	1
5	0.25

Circle One:
Linear (Exponential)

Reasoning:
÷ 4

2)

x	y
-2	16
-1	19
0	22
1	25
2	28

Circle One:
(Linear) Exponential

Reasoning:
+ 3

3) $y = -\frac{5}{7}x - 4$

Circle One: (Linear) Exponential

Reasoning:
X is not an Exponent

Graph is a straight Line

4) $y = (\frac{1}{3})^x - 8$

Circle One: Linear (Exponential)

Reasoning:
X is Exponent

5) $f(x) = 7(6)^x + 2$

Circle One: Linear (Exponential)

Reasoning:
X is Exponent

6) Each term in a sequence is exactly five greater than the previous term.

Circle One: (Linear) Exponential

Reasoning:
+ 5
add 5

7) Your brand new car loses 15% of its value each year.

Circle One: Linear (Exponential)

Reasoning: Multiply by .15 to find %'s

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Name Key

Given the following tables, create one linear and one exponential function. Justify your reasoning.

8) Linear Function:

x	y
-1	8
0	12
1	16
2	20

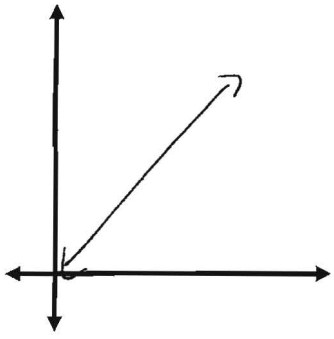
Explain: add 4

9) Exponential Function:

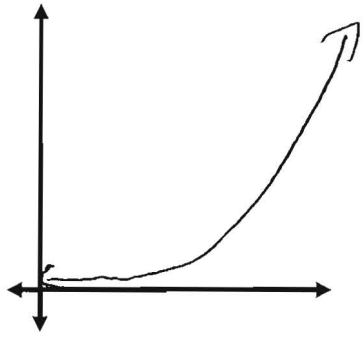
x	y
4	3
6	6
8	12
10	24

Explain: x 2 multiply by 2

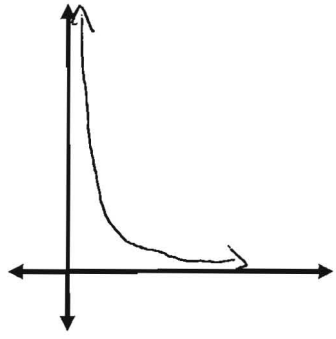
10) Draw a function that is linear.



11) Draw a function that shows exponential growth.



12) Draw a function that shows exponential decay.



13. To the right is the graph of the function $f(x) = .5^x - 3$. Draw and label the asymptote on the graph and identify the domain and range.

Domain: $\mathbb{R}$'s

Range: $y > -3$

Asymptote: $y = -3$