


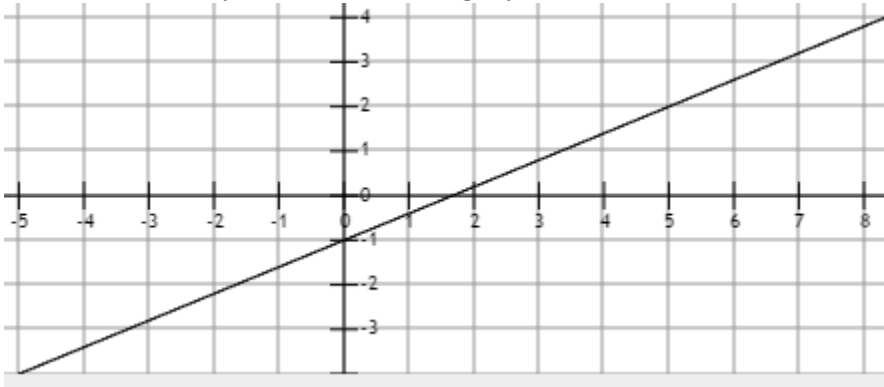
Math 9/9H

5.1 – 5.3 Test Review

With the following functions, tell me if it represents a linear function, exponential function, or neither. If it is exponential, state the growth factor!

<p>1)</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="padding: 5px;">Time (seconds)</th> <th style="padding: 5px;">Radioactivity level</th> </tr> </thead> <tbody> <tr><td style="padding: 5px;">0</td><td style="padding: 5px;">20</td></tr> <tr><td style="padding: 5px;">1</td><td style="padding: 5px;">10</td></tr> <tr><td style="padding: 5px;">2</td><td style="padding: 5px;">5</td></tr> <tr><td style="padding: 5px;">3</td><td style="padding: 5px;">2.5</td></tr> <tr><td style="padding: 5px;">4</td><td style="padding: 5px;">1.25</td></tr> </tbody> </table>	Time (seconds)	Radioactivity level	0	20	1	10	2	5	3	2.5	4	1.25	<p>2)</p> $y = \left(\frac{5}{6}\right)^x$	<p>3)</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="padding: 5px;">x</th> <th style="padding: 5px;">y</th> </tr> </thead> <tbody> <tr><td style="padding: 5px;">-1</td><td style="padding: 5px;">-1</td></tr> <tr><td style="padding: 5px;">0</td><td style="padding: 5px;">0</td></tr> <tr><td style="padding: 5px;">1</td><td style="padding: 5px;">-1</td></tr> <tr><td style="padding: 5px;">2</td><td style="padding: 5px;">-4</td></tr> </tbody> </table>	x	y	-1	-1	0	0	1	-1	2	-4				
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10) Write the equation from the graph:



11) How do you tell if a function is exponential?

12) Write an equation from the table

X	Y
4	768
5	3072
6	12288
7	49152

13) Write an equation from the table.

X	Y
-5	$\frac{1}{243}$
-4	$\frac{1}{81}$
-3	$\frac{1}{27}$
-2	$\frac{1}{9}$

14) Write an equation from the table.

X	Y
-2	96
-1	24
0	6
1	$\frac{3}{2}$
2	$\frac{3}{8}$

15) John went to a dumpster behind some rich people's house and found a basketball signed by Michael Jordan! He Googled it and found it was worth \$15,000 and it would lose 12% of its current value every year! Sweet glory!

a. Make an equation to represent his situation.

b. If John had that ball for another 20 years, what would it be worth then?

16) Hayden, however, only found a chocolate basketball that had been LICKED by Michael Jordan, but it was still worth \$1500. However, because it was chocolate, and chocolate gets all old and stuff, it was losing 36% of its value every month! Shoot. Dang.

a. Make an equation for Hayden's chocolate ball decay.

b. If Hayden only had the ball for a year and a half (then ate it cause he couldn't help himself), how much would it be worth then?

17) Kaydence had \$1600 from selling her sasquatch paintings and wanted to put it into a savings account. Wells Fargo said that she could put it into a savings account for 5 years at making 15% interest at the end of every year. US Bank said she could put it into one of their accounts for 8 years making 9% interest at the end of every year.

Which one should Kaydence choose? Which one would make her more, and how much more would she make?