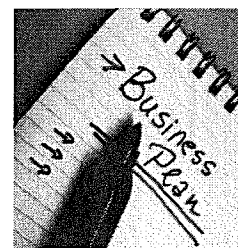


Name:

## Linear and Exponential Functions | 4.5

Ready, Set, Go!



Ready

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Topic: Comparing arithmetic and geometric sequences

The first and 5<sup>th</sup> terms of a sequence are given. Fill in the missing numbers for an arithmetic sequence. Then fill in the numbers for a geometric sequence.

1.

Arithmetic	4				324
Geometric	4				324

2.

Arithmetic	3				48
Geometric	3				48

3.

Arithmetic	-6250				-10
Geometric	-6250				-10

4.

Arithmetic	-12				-0.75
Geometric	-12				-0.75

5.

Arithmetic	-1377				-17
Geometric	-1377				-17

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Name: \_\_\_\_\_

## Linear and Exponential Functions | 4.5

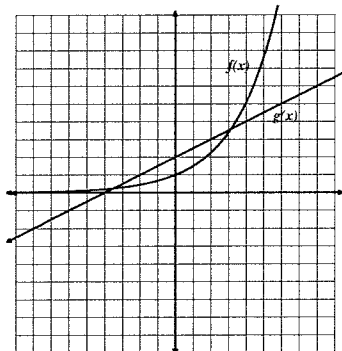
## Set

Topic: comparing the rates of change of linear and exponential functions.

Compare the rates of change of each pair of functions by identifying the interval where it appears that  $f(x)$  is changing faster and the interval where it appears that  $g(x)$  is changing faster. Verify your conclusions by making a table of values for each equation and exploring the rates of change in your tables.

6.  $f(x) = (1.5)^x$

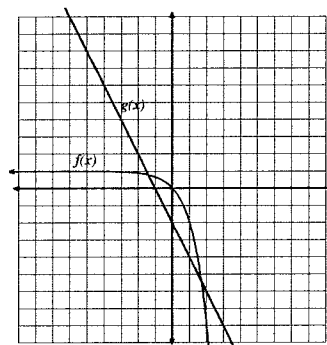
$g(x) = \frac{1}{2}x + 2$



x	f(x)	g(x)

7.  $f(x) = -3^x + 1$

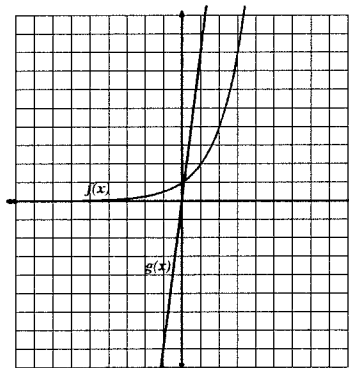
$g(x) = -2x - 2$



x	f(x)	g(x)

8.  $f(x) = 2^x$

$g(x) = 8x$



x	f(x)	g(x)

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Name:

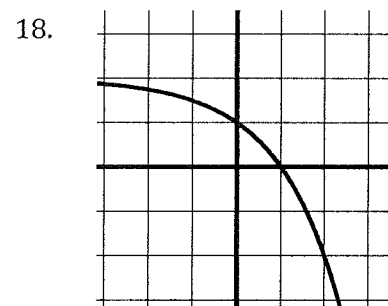
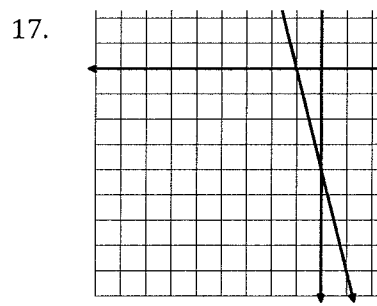
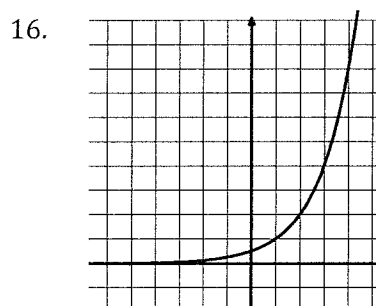
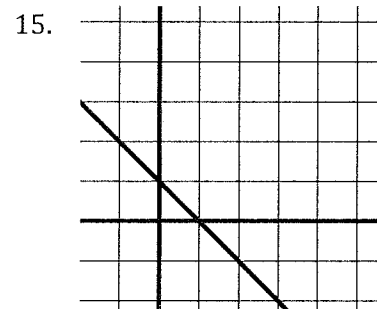
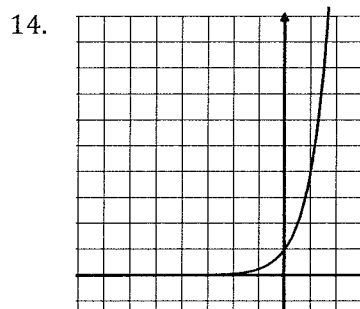
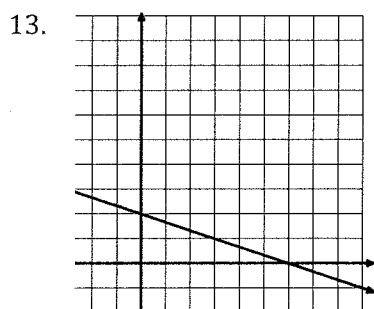
## Linear and Exponential Functions | 4.5

Go

Topic: Writing explicit equations for linear and exponential models.

Write the explicit equation for the tables and graphs below.

9.	$x$	$f(x)$	10.	$x$	$f(x)$	11.	$x$	$f(x)$	12.	$x$	$f(x)$
	2	-4		-1	$2/5$		2	-24		-4	81
	3	-11		0	2		3	-48		-3	27
	4	-18		1	10		4	-96		-2	9
	5	-25		2	50		5	-192		-1	3



Need Help? Check out these related videos:

<http://www.khanacademy.org/math/algebra/solving-linear-equations/v/equations-of-sequence-patterns>

<http://www.khanacademy.org/math/algebra/ck12-algebra-1/v/geometric-sequences--introduction>

<http://www.khanacademy.org/math/algebra/ck12-algebra-1/v/exponential-growth-functions>

<http://www.khanacademy.org/math/algebra/ck12-algebra-1/v/exponential-decay-functions?v=AXAMVxaxjDg>

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