

Module 1

{1} Consider the following sequence:

n	1	2	3	4
$f(n)$	2	10	50	250

{a} Is the sequence above arithmetic or geometric? How do you know?

{b} Create a recursive formula for the sequence.

{c} Create an explicit formula for the sequence.

{2} Consider the following sequence:

n	0	1	2	3
$f(n)$	24	16	8	0

{a} Is the sequence above arithmetic or geometric? How do you know?

{b} Create a recursive formula for the sequence.

{c} Create an explicit formula for the sequence.

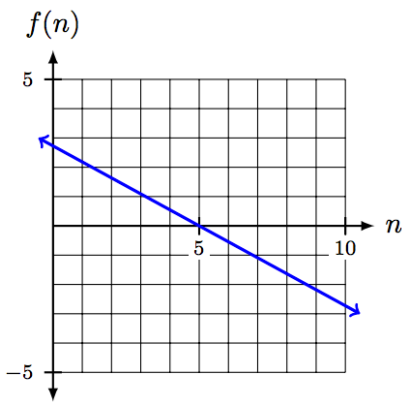
Module 2

For exercises 3-6, decide whether the given function is discrete or continuous, explain your choice. Additionally, decide if the function is linear/arithmetic or exponential/geometric, explain your choice.

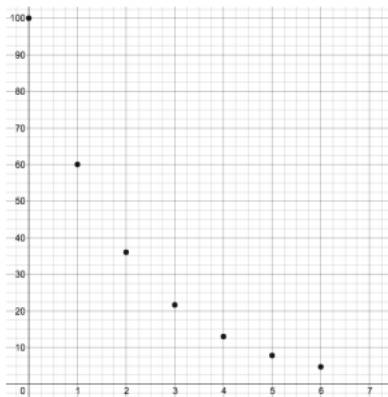
{3} $y = 2x + 5$

{4} $y = 2\left(\frac{1}{2}\right)^x$

{5}



{6}



{7} Fill in the table for a linear relation. Then, write an equation for the relation.

x	0	1	2	3	4	5
y		3				31

Module 3

{8} Use the graph below to determine each of the following. Write a-e in interval notation, and f-i in coordinate notation.

{a} Domain:

{b} Range:

{c} Intervals of increase:

{d} Intervals of decrease:

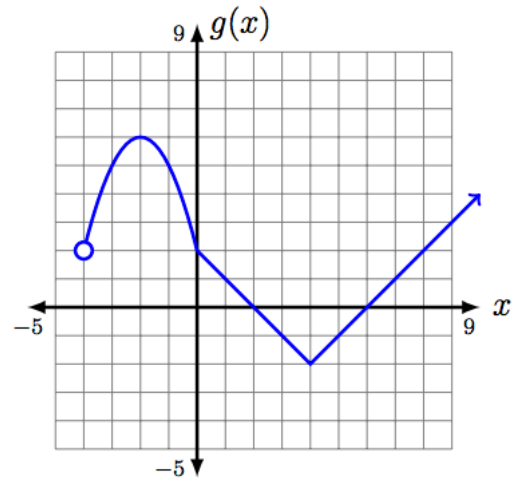
{e} Intervals of constant:

{f} x -intercept(s):

{g} y -intercept(s)

{h} Maximum:

{i} Minimum:



{9} Use the graph to the right to fill in the following.

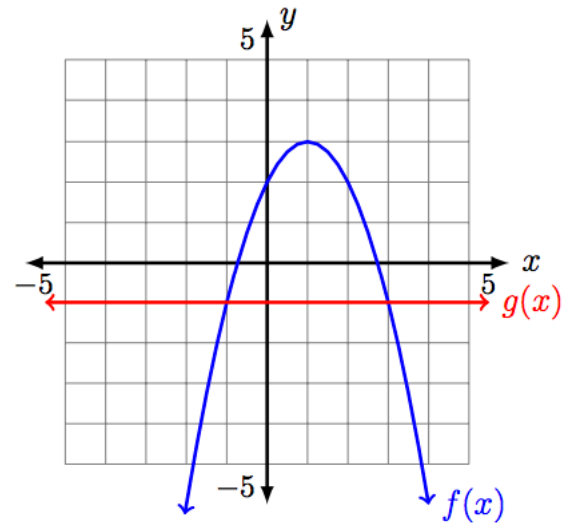
{a} $f(0) =$

{b} $g(-2) =$

{c} When $f(x) = -1$, $x =$

{d} At what value(s) of x does $f(x) = g(x)$?

{e} On what interval is $f(x) > g(x)$?



{10} Use $f(x) = 3x + 2$ and $g(x) = -x + 4$ to fill in the following.

{a} $f(-2) =$

{b} $g(4) =$

{c} When $f(x) = -4$, $x =$

{d} Evaluate $f(2) + g(2)$

{e} Let $h(x) = f(x) + g(x)$. Write an equation for $h(x)$.

Module 4

For 11-16, solve each equation. Show your work.

$$\{11\} \frac{2x}{5} = 6$$

$$\{12\} -16 = -6 - 5x$$

$$\{13\} 4(x - 2) = 20$$

$$\{14\} \frac{1}{3}x + 3 = 9$$

$$\{15\} 4(x - 1) + 3 = 19$$

$$\{16\} 3x - 5 = 6x + 7$$

For 17-28, solve each inequality and mark the solution on a number line.

$$\{17\} 5x - 6 < 7x + 8$$

$$\{18\} -3x - 2 \geq 10$$

$$\{19\} \text{Solve for } B: 2B + 3C = D$$

$$\{20\} \text{Solve for } x: y = mx + b$$

{21} Write an inequality for the graph below:

