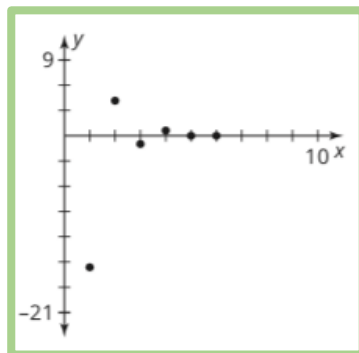
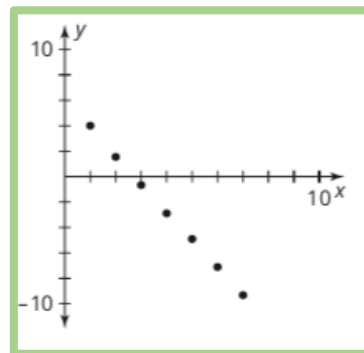


Semester 1 Exam

- Determine which graph corresponds to which sequence below and draw an arrow connecting each graph to its sequence. Label each sequence as arithmetic, geometric, or other.



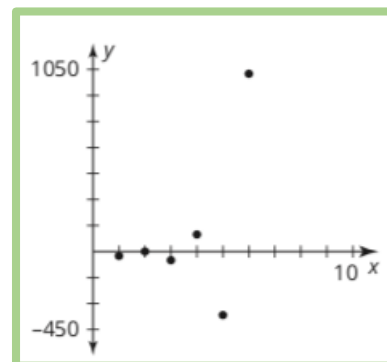
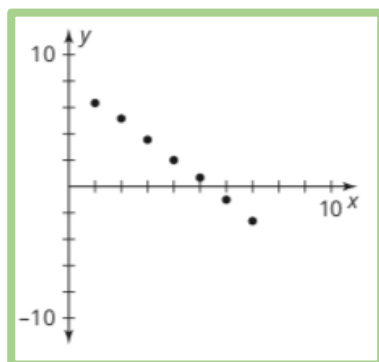
6.5, 5, 3.5, 2, ...



-4, 12, -36, 108, ...

4, 7/4, -1/2, -11/4, ...

-16, 4, -1, 1/4, ...



2. Consider the explicit formula for the arithmetic sequence $a_n = 1 + 3(n - 1)$.

(a) Fill in the first five terms of the sequence a_n in the table below.

n	a_n
1	
2	
3	
4	
5	

(b) Using your table of values from part (a) graph the arithmetic sequence a_n and draw the line that goes through it.

(c) Solve for the equation of the linear function $f(n)$ that passes through the points in your graphed sequence from (b) (recall that linear functions are written as $f(n) = an + b$, where a is the slope and b is the y -intercept).

3. Do the functions written in the table below represent linear functions? If so, write down the equation for the linear function in general form ($f(x) = ax + b$).

x	f(x)	x	g(x)
1	2	1	5
2	8	2	7
3	14	3	10
4	20	4	14

4. Consider the linear function $z(x) = -2x + 2$.

(a) Graph $z(x)$ where x ranges from 0 to 5.

(b) What's the x -intercept and y -intercept of $z(x)$?

(c) Vertically translate the function $z(x)$ up by three and graph the translated function on your graph from part (a). What's the equation of the vertically translated function?