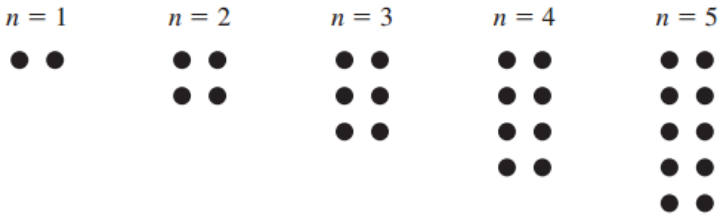
Essential Question: What does the graph of an arithmetic sequence look like?

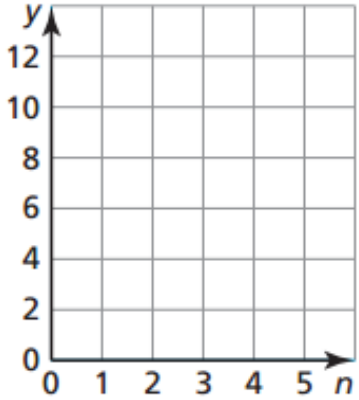
Do Now:

a) Use the figure pictured below to complete the table.



n	1	2	3	4	5
y (number of dots)					

b) Plot the points from the table onto the graph.



c) Does it make sense to connect the points? Be ready to justify your response.

Graphing Sequences

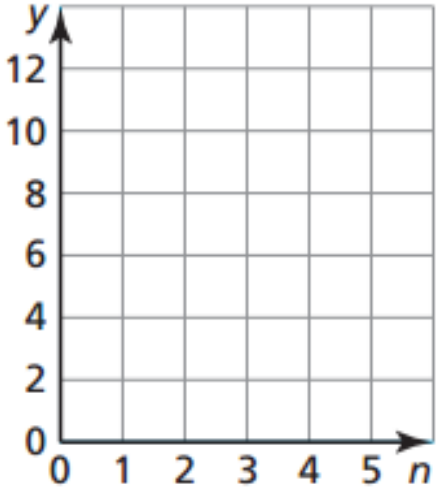
- the term's position number, n, in the sequence is graphed as the x-value
- the term a_n is graphed as the corresponding y-value
- plot the ordered pairs (n, a_n)
- graph as a scatter plot (do not connect the dots).

Consider the arithmetic sequence 2, 6, 10, ...

a. Create a table of values for the sequence.
b. Write an explicit formula that represents the sequence.
c. Graph the sequence.
d. What is the slope of the line?

n	a_n

Explicit Formula

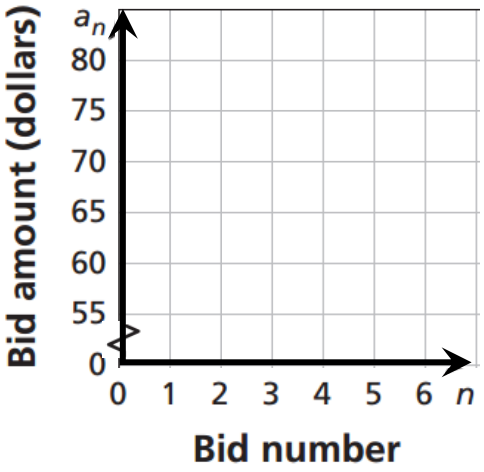


Graphing Arithmetic Sequences

(1) Online bidding for a purse increases by $5 for each bid after the first person bids $60.

(a) Write a function rule that represents the arithmetic sequence.

(b) Graph the function.

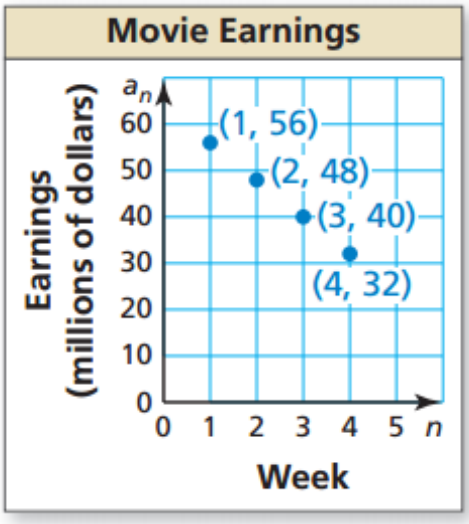


(c) If the winning bid was $105, how many bids were there?

(2) The amount of money a movie earns each week after its release can be approximated by the sequence shown in the graph.

(a) Write a function rule that represents the arithmetic sequence.

(b) In what week does the movie earn $16 million dollars?

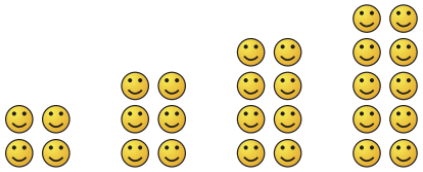


The TAKE AWAY

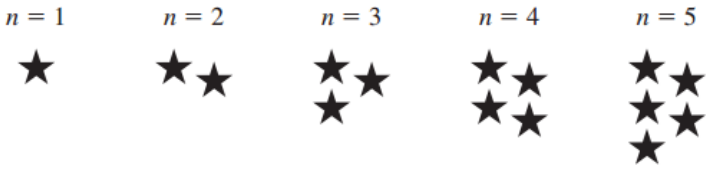
The points of the graph of an arithmetic sequence form a _____.

The _____ of the line is the common difference.

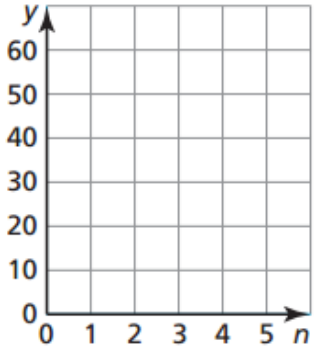
(1) Write a sequence that represents the number of smiley faces in each group. Is the sequence arithmetic? Explain.



(2) Use the figure to complete the table and plot the points.



Number of stars, *n*	1	2	3	4	5
Number of sides, *y*					

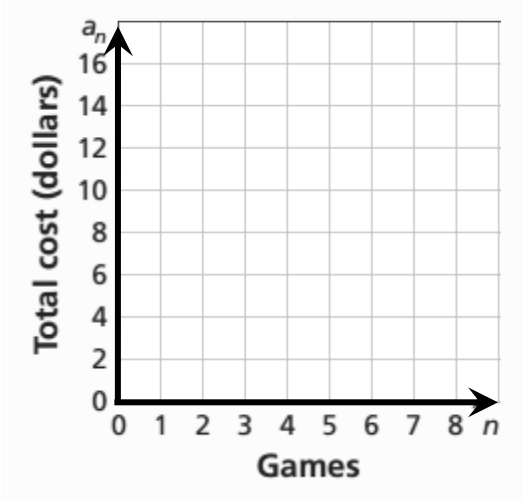


Write an equation that models the pattern displayed by the figure.

(3) A carnival charges $2 for each game after you pay a $5 entry fee.

(a) Write a function rule that represents the situation.

(b) Graph the function.



(c) How many games can you play when you take $29 to the carnival?