1 Arithmetic Growth

Mr. Mikula has been working on his vertical jump. As of September, he was able to jump 6 inches. Each month, he adds 2 inches to his jump.

Use the formula for the general term of an arithmetic sequence to find his vertical jump at the end of six months of training.

Determine the formula for the general term of the sequence of vertical jump heights.

If he continues to add to his vertical jump by the same amount each month, how long will it take for him to be able to (like Superman) leap over a tall building in a single bound?

2 Arithmetic Decay

Six weeks into the term, Mr. Mikula's Math 20-1 class had 79% confidence that he was not lying to them in his class notes. Nineteen weeks into the term, they are only 40% confident in him.

Use an arithmetic sequence to determine the weekly loss of confidence.

Determine their initial confidence in Mr. Mikula.

3 Arithmetic Sequences and Linear Functions

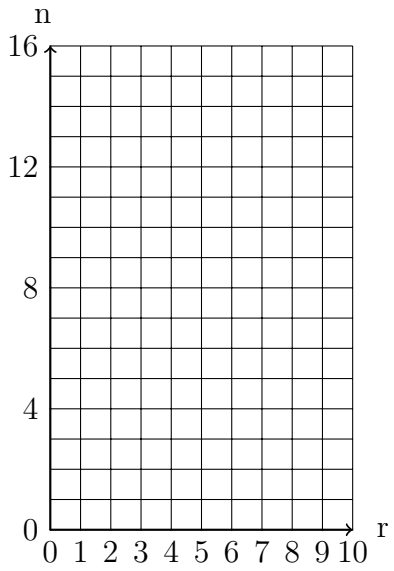
Arithmetic sequences are related to linear functions over the natural numbers. For example:

A collection of LEGO pieces is arranged into rows. There are 0 pieces in the first row, and each row has two more than the row before it.

Complete the table of values showing the number of bricks in each of the first 8 rows.

Row Number (r)	Number of Bricks (n)

Plot the ordered pairs on the grid, and determine whether the relationship is linear or non-linear.



Determine if the **range** of the function is an arithmetic sequence.

State the **domain** of the relation.

Why do we not draw the graph all the way to the vertical axis?

Write the equation for the number of bricks in a row, n, as a function of the row number, r.