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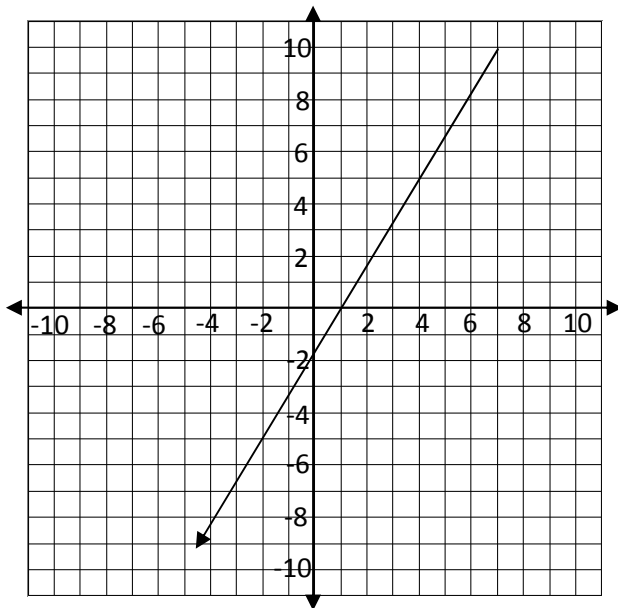
Comparing Functions in Different Formats - Step-by-Step Lesson

Two functions are represented in different ways.

Function 1: The input-output table shows the x - and y -values of a quadratic function.

x	y
0	0
2	4
3	9
5	25
6	36
7	49
10	100

Function 2: The graph of a linear function is shown.



From the two functions, which function grows faster for large positive values of x ?



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Explanation:

Step 1) Slope is a measure of how fast a line rises. If we compare the slope of each line, generated from the data, we will be clearly able to determine the rate of growth.

Step 2) We use this equation to determine slope.

The formula of slope is $y = mx + b$.

Function 2 = the y-intercept is -2 and the slope is 2.

Step 3) So, for $x = 0$, the function shown in the graph has a greater value. Also, the slope is positive.

Step 4) Then look at the table (Function 1), you will see that the y- values are equal to the square of x. These values will have a faster than linear rate of growth.

Step 5) For the function in the table, when $x = 10$, $y = 100$.

You can see in the graph that the line is not yet that high when $x = 10$.

This indicates to us that Function 1 grows at a much faster rate.

