Notes

Topic 05: Comparing Linear Functions

A key skill in 8th grade is comparing two linear functions given in different forms.

For example, here is a sample problem:

Which of the functions below has the greater slope value?

Function A   **Function B**

$y = 2x + 1$

X	Y
-1	3
0	6
1	9
2	12
3	15

For Function A, the slope value is "2".

You know this, because the equation is in the "y = mx + b" form (known as the slope intercept form). That means the "m" is the slope and the "b" is the y-intercept.

For Function B, the slope value is "3".

You know this, because you know that slope equals $\dfrac{rise}{run}$. You can see that for every run of "1" in the chart, you rise "3". For example, when you run from 0 to 1 (a run of 1), you rise from 6 to 9 (a rise of 3). So the slope is $\dfrac{3}{1}$, which equals 3.
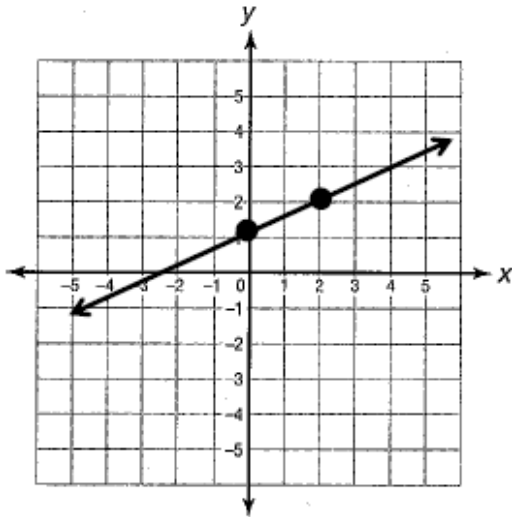
Function B is therefore greater than Function A.

Notes

Here is another sample problem:

Which of the functions below has the greater slope value?

| **Function R** | **Function S** |

X	Y
-2	1
0	3
2	5
4	7
6	9

For Function R, the slope value is "½".

You know this, because you know that slope equals $\dfrac{rise}{run}$.

You can see the slope is 1 over two because you rise 1 (from 1 to 2) as you run 2 (from 0 to 2)

For Function S, the slope value is "1".

You know this, because you know that slope equals $\dfrac{rise}{run}$. You can see that for every run of "2" in the chart, you rise "2". For example, when you run from 0 to 2 (a run of 2), you rise from 3 to 5 (a rise of 2). So the slope is $\dfrac{2}{2}$, which equals 2.

Function S is therefore greater than Function R.