

* Student Lead Notes / Discovery

Algebra 5.8 Student Notes - ANSWER KEY

#1: Complete the chart below.

* Show how to use website

Vocab	Explanation/Definition
Absolute Value Function	<ul style="list-style-type: none">- "V" shaped graph- opens up or down- parent function is $y = x$
Translation	<ul style="list-style-type: none">- means slide- shift of a graph (horizontally, vertically or both)- same size and shape, but different position
Piecewise Function & Step Function	<p>Piecewise – a function that has different rules for different parts of its domain (defined "piece-by-piece" over intervals, a function made of pieces)</p> <p>Step function- a function that pairs every # in an interval with a single value</p> <p>Example: A doctor's fee is based on the length of time</p> <ul style="list-style-type: none">- up to 6 minutes, the cost is \$50- between 6-15 minutes the cost is \$80- over 15 minutes the cost is \$80 + \$5 per minute over 15 minutes <p>$f(t) \begin{cases} \\$50, & \text{if } t \leq 6 \\ \\$80, & \text{if } t > 6 \ \& \ t \leq 15 \\ \\$80 + \\$5(t-15), & \text{if } t > 15 \end{cases}$</p>

* Website Link:

Using the "Graphing Calculator for Absolute Value", answer the below questions.

<p>#2: Graph $y = x$. Then describe the domain and range of the function.</p>	<p>The domain of the number is all real numbers. The range is $y \geq 0$</p>
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#3: Graph each function then describe in words how the function changed from $y = |x|$. Look for characteristics that you've studied with other graphs, such as size, shape, or individual points.

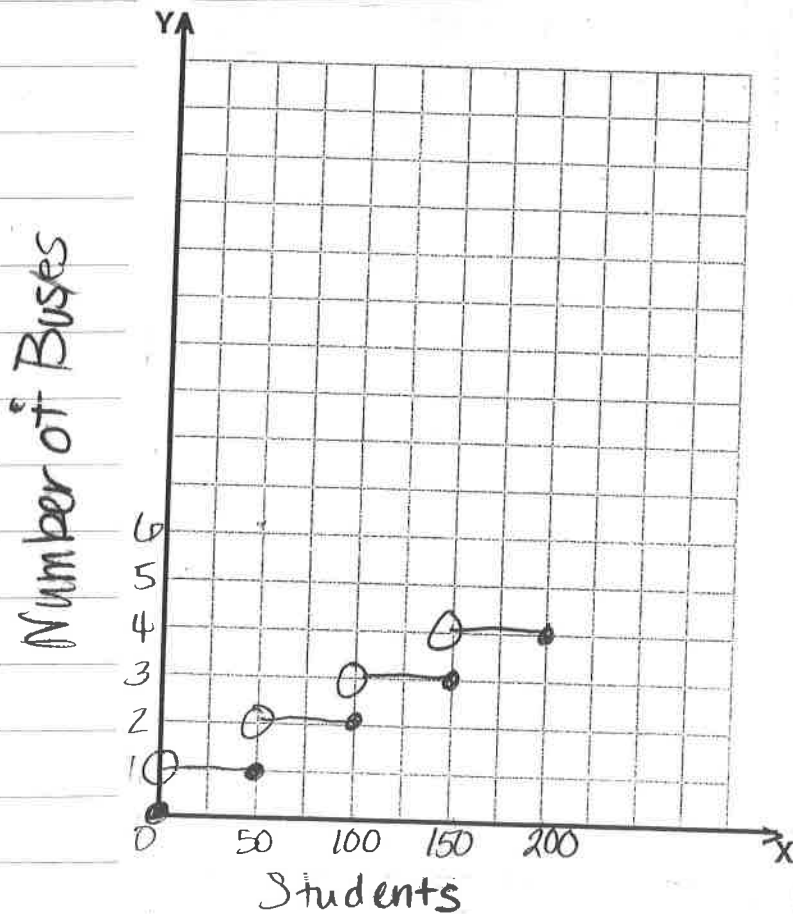
A. $y = x + 8$	Translated 8 units up
B. $y = x - 8 $	Translated 8 units right
C. $y = x + 8 $	Translated 8 units left
D. $y = x - 8$	Translated 8 units down
E. $y = x + 5 $	Translated 5 units left
F. $y = x + 5$	Translated 5 units up
G. $y = x - 5$	Translated 5 units down
H. $y = x - 5 $	Translated 5 units right

#4: Investigate any patterns you see between the absolute value equations and from each graph. Then create a formula as a rule that can be used to describe each function with absolute value.

Rule for A & F	$y = x + k$, means translated up "k" units = outside
Rule for B & H	$y = x - h $, means translated right "k" units = inside
Rule for C & E	$y = x + h $, means translated left "k" units = inside
Rule for D & G	$y = x - k$, means translated down "k" units = outside

* Review Problem 4, "Graphing a Step Function" on pg. 348

* Got it 4)



This graph shows that for any # of students between 1-50, you will need 1 bus.

For any # of students between 51-100, you will need 2 buses.

For any # of students between 101-150, you will need 3 buses.