Class Notes

2.6 Special Functions

Algebra 2 - Davis

Name:

Date:

Vocabulary

piecewise defined function

piecewise linear function

step function

greatest integer function

abs value function

SAT WARM-UP: For which function does f(-1/2) not equal to -1

A) $f(x)=2x$

B) $f(x)=|-2x|$

C) $f(x)=[[x]]$

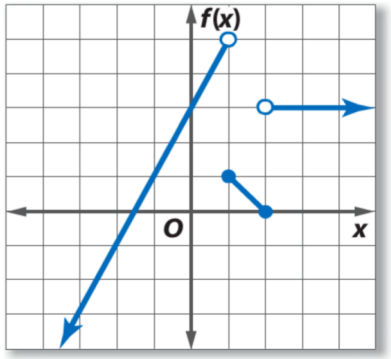
D) $f(x)=[[2x]]$

E $-|2x|$

1. A Piecewise Defined Function is a function written using 2 or more expressions.

for example $g(x)=\begin{cases} x+2 & if \quad x<0 \\ x & if \quad x\geq 0 \end{cases}$

2. Writing a Piecewise Function from a graph.



3. A piecewise linear function is a single expression. One graph model is the common step function, which can be defined by the greatest integer function.

$f(x)=[[x]]$ - "the greatest integer less than or equal to x"

Example

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4. Real World Step Function: An Auto Repair Center Charges $50 for any part of the first hour and $35 for any part of each additional hour.

5. Absolute Value Function is another piecewise linear function

$f(x)=|x|$

6. $f(x)=|2x|-4$

7. Honors Group Work

Graph $|y|=2|x+3|-5$

Practice in Class – as directed

Practice at Home:

2.6 #12,14,16,18,20,24,28,34