

## Chapter 16 Section 2:

 Identify \& Graph Step Functions
## Warm Up

1) Solve for the complex solution.
a) $x^{2}+64=0$
b. $x^{2}+2 x+10=0$
2) Simplify each of the following
a) $\sqrt{-72}$
b) $(3+5 i)(2-3 i)$

## Chap. 16 Sect. 2: Learning Target

I can identify and graph a Step Function.

## Step Function

A piecewise function whose pieces are disconnected constant functions. The graph looks like steps.

Cost of a Buffet by Age

$$
f(x)=\left\{\begin{array}{lr}
0 & x<2 \\
3 & 2 \leq x<4 \\
5 & 4 \leq x<6 \\
7 & 6 \leq x<9 \\
10 & x \geq 9
\end{array}\right.
$$



## Greatest Integer Function

## Least Integer Function

The greatest Integer that is less than or equal to the input. (Rounds down to prev. integer)

$$
f(x)=\lfloor x\rfloor
$$


"Floor"

The Least Integer that is greater than or equal to the input. (Rounds up to next integer)

$$
f(x)=\lceil x\rceil
$$


"Ceiling"

Examples

