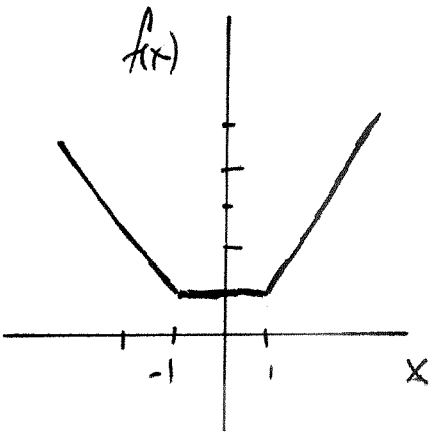
Ex 1.1 #66

$$f(x) = \begin{cases} -x & \text{if } x \le -1 \\ 1 & \text{if } -1 < x < 1 \\ x & \text{if } x \ge 1 \end{cases}$$

x	-2.5	-2	-1.5	-1	-.5	0	.5	1	1.5	2	2.5
$f(x)$	2.5	2	1.5	1	1	1	1	1	1.5	2	2.5



Ex 1.2 #16

Let t = the age of the building in years ✓
$V(t)$ = the value of the building after t years ($)

Δt		$\Delta V(t)$
0	$V(0) = 1{,}100{,}000$	
		$-1{,}000{,}000$
50	$V(50) = 100{,}000$	

The slope of our linear model is $= \dfrac{\Delta V(t)}{\Delta t}$

$$= \frac{1{,}100{,}000 - 100{,}000}{0 - 50}$$

$$= -20{,}000$$

So, $V(t) = 1{,}100{,}000 - 20{,}000t$ for $0 \le t \le 50$ ✓

$V(1) = 1{,}080{,}000$
✓ So, the value of the building after one year is $1,080,000

$V(2) = 1060{,}000$
✓ So, the value of the building after two years is $1,060,000

$V(40) = 300{,}000$
✓ So, the value of the building after 40 years is $300,000