Extra Practice Review Name Key Period _____

For each of the following: 1) List the transformations in the correct order. 2) Create a table to show the transformations on the key points. 3) State the vertex or endpoint. 4) Sketch the graph.

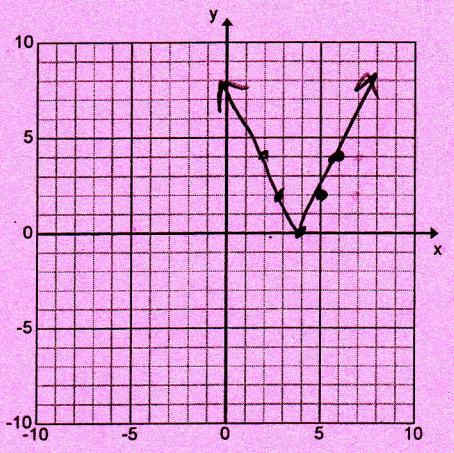
1. $f(x) = 2|-(x-4)|$

Transformations:

reflect over yaxis
vertical stretch of 2
shift right 4

Tables:

+4	·-1	x	y=|x|	·2
6	2	-2	2	4
5	1	-1	1	2
4	0	0	0	0
3	-1	1	1	2
2	-2	2	2	4



vertex or endpoint: (4, 0)

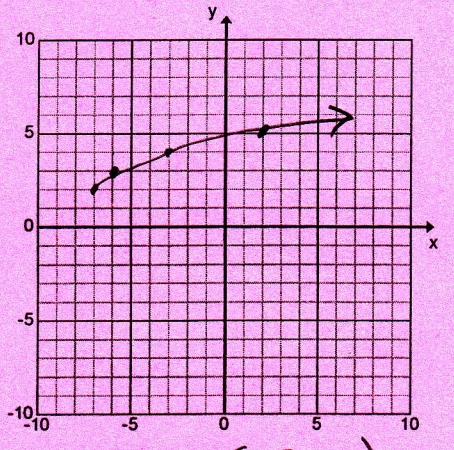
2. $f(x) = \sqrt{x+7} + 2$

Transformations:

Shift left 7
shift up 2

Tables:

-7	x	y=√x	+2
-7	0	0	2
-6	1	1	3
-3	4	2	4
2	9	3	5



vertex or endpoint: (-7, 2)

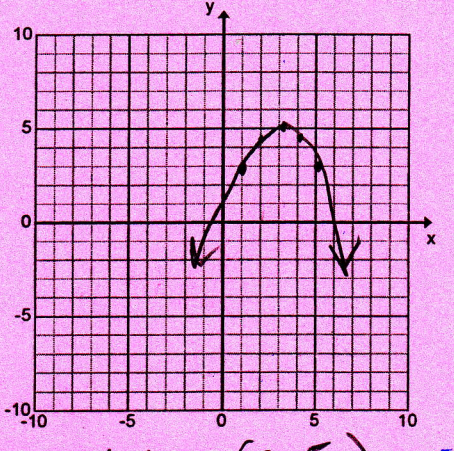
3. $f(x) = -\frac{1}{2}(x-3)^2 + 5$

Transformations:

reflect over xaxis
vertical shrink of 1/2
shift right 3
shift up 5

Tables:

+3	x	y=x²	·-½	+5
1	-2	4	-2	3
2	-1	1	-½	4.5
3	0	0	0	5
4	1	1	-½	4.5
5	2	4	-2	3



vertex or endpoint: (3, 5)

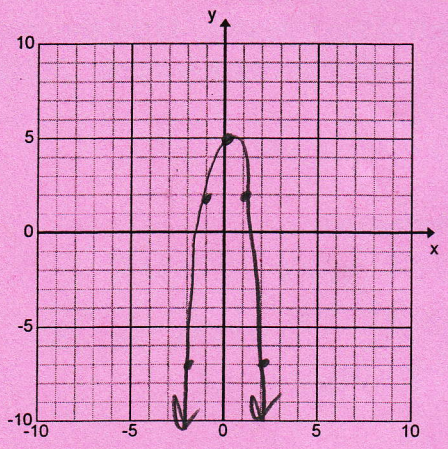
4. $f(x) = -3x^2 + 5$

Transformations:

reflect over x axis
vertical stretch of 3
shift up 5

Tables:

x	$y=x^2$	$\cdot -3$	$+5$
-2	4	-12	-7
-1	1	-3	2
0	0	0	5
1	1	-3	2
2	4	-12	-7



vertex or endpoint: (0, 5)

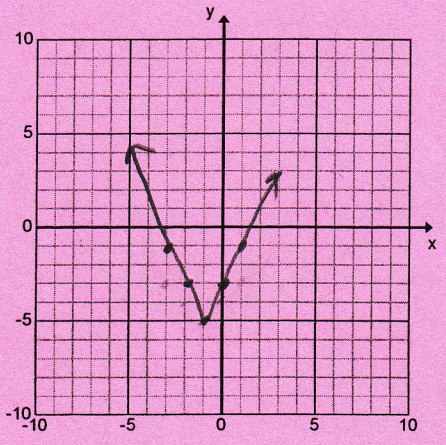
5. $f(x) = 2|x+1| - 5$

Transformations:

vertical stretch of 2
shift left 1
shift down 5

Tables:

-1	x	$y=\lvert x\rvert$	$\cdot 2$	-5
-3	-2	2	4	-1
-2	-1	1	2	-3
-1	0	0	0	-5
0	1	1	2	-3
1	2	2	4	-1



vertex or endpoint: (-1, -5)

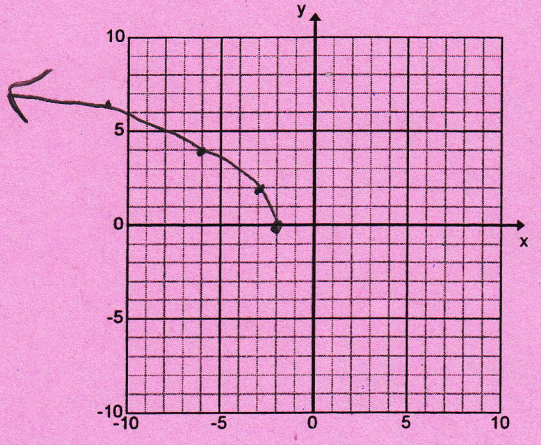
6. $f(x) = 2\sqrt{-(x+2)}$

Transformations:

reflect over y axis
vertical stretch of 2
shift left 2

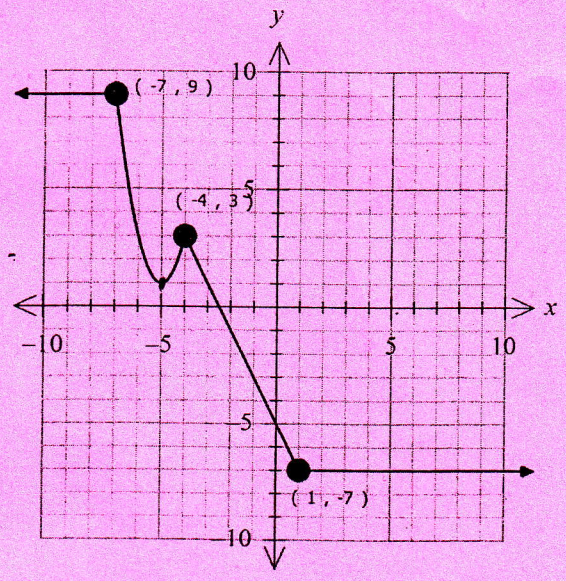
Tables:

-2	$\cdot -1$	x	$y=\sqrt{x}$	$\cdot 2$
-2	0	0	0	0
-3	-1	1	1	2
-6	-4	4	2	4
-11	-9	9	3	6



vertex or endpoint: (-2, 0)

7. x-intercept(s): $(-2.5, 0)$ y-intercept: $(0, -4)$



Relative Maximum Point: $(-4, 3)$

Relative Maximum Value: $3, 9$

Relative Minimum Point: $(-5, 1)$

Relative Minimum Value: $1, -7$

Absolute Maximum Point: n/a Value: 9

Absolute Minimum Point: n/a Value: -7

Positive: $(-\infty, -2.5)$ Negative: $(-2.5, \infty)$

Increasing: $(-5, -4)$ Decreasing: $(-7, -5) \cup (-4, 1)$

Constant: $(-\infty, -7) \cup (1, \infty)$

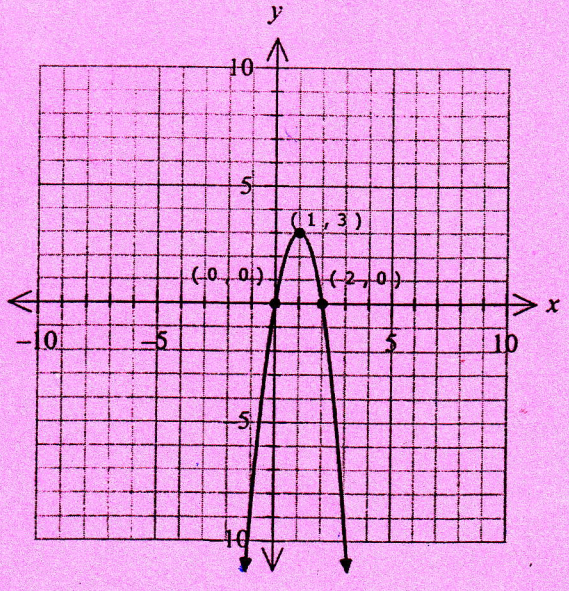
Left End Behavior: $\lim_{x \to -\infty} f(x) = 9$

Right End Behavior: $\lim_{x \to \infty} f(x) = -7$

Domain $(-\infty, \infty)$

Range $[-7, 9]$

7. x-intercept(s): $(0, 0), (2, 0)$ y-intercept: $(0, 0)$



Relative Maximum Point: $(1, 3)$

Relative Maximum Value: 3

Relative Minimum Point: n/a

Relative Minimum Value: n/a

Absolute Maximum Point: $(1, 3)$ Value: 3

Absolute Minimum Point: n/a Value: n/a

Positive: $(0, 2)$ Negative: $(-\infty, 0) \cup (2, \infty)$

Increasing: $(-\infty, 1)$ Decreasing: $(1, \infty)$

Constant: n/a

Left End Behavior: $\lim_{x \to -\infty} f(x) = -\infty$

Right End Behavior: $\lim_{x \to \infty} f(x) = -\infty$

Domain $(-\infty, \infty)$

Range $(-\infty, 3]$