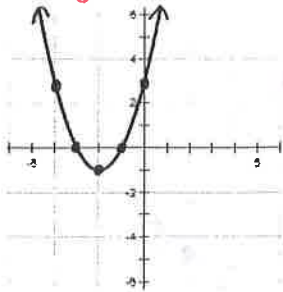
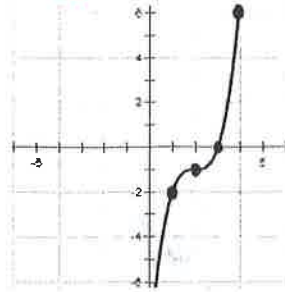


PART 1: Write the equation of each graph in General Form.

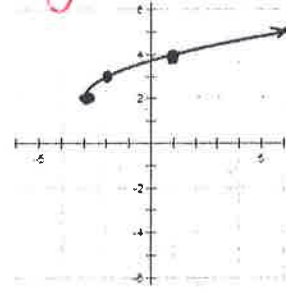
1) $y = (x+2)^2 - 1$



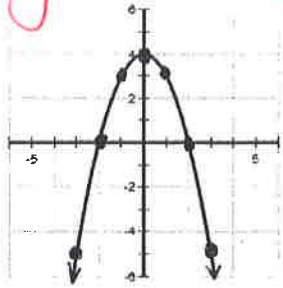
2) $y = (x-2)^2 - 1$



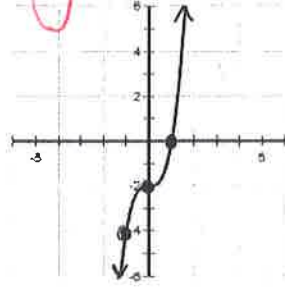
3) $y = \sqrt{x+3} + 2$



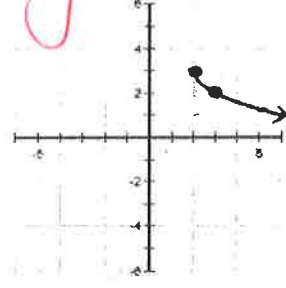
4) $y = -x^2 + 4$



5) $y = 2x^3 - 2$

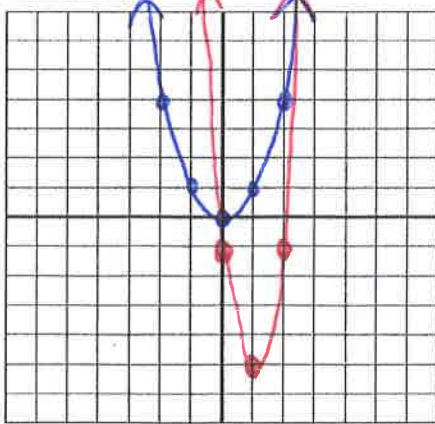


6) $y = -\sqrt{x-2} + 3$



Directions: Given following information about the function, state the equation and description of the graph. Finally, sketch the graph of the transformed function, without a calculator. Please graph your parent graph in colored pencil/pen.

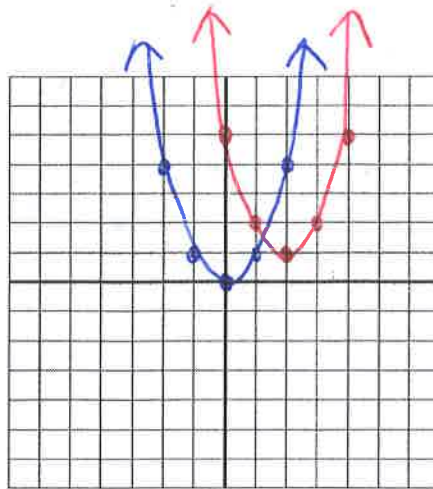
PART 2: Quadratic Function



Equation: $f(x) = (2x - 2)^2 - 5$

Description: $(2(x-1))^2 - 5$

Shift right 1,
down 5
Horizontal stretch
of 2

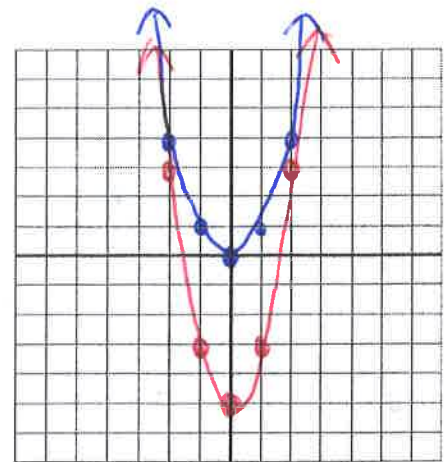


Equation:

$y = (-x+1)^2 + 1$

Description:

- A quadratic function
- Horizontal shift right 2 units
- Vertical shift up 1 unit
- Reflect across the y-axis



Equation: $f(x) = 2(-x)^2 - 5$

Description:

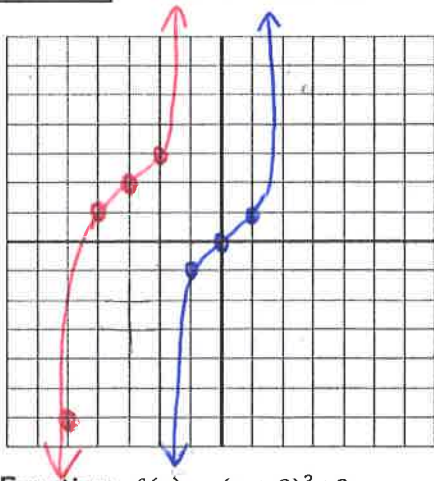
Reflect across y-axis
Shift down 5
Vertical stretch of 2

x | y
0 | -1
-1 | 11

Honors Algebra 2/Trig
Parent Graphs HW Packet - Day 1

Directions: Given following information about the function, state the equation and description of the graph. Finally, sketch the graph of the transformed function, without a calculator. Please graph your parent graph in colored pencil/pen.

PART 3: Cubic Function

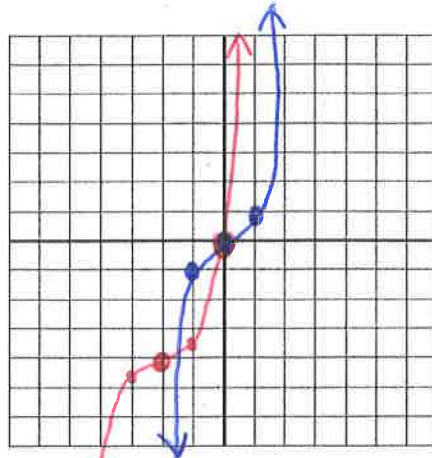


Equation: $f(x) = (x + 3)^3 + 2$

Description:

Shift left 3

Shift up 2

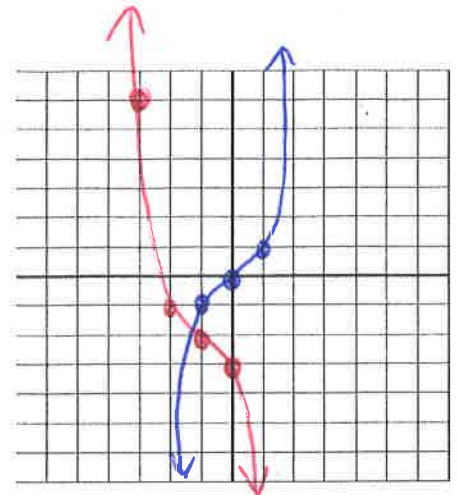


Equation:

$y = \frac{1}{2}(x + 2)^3 - 4$

Description:

- A cubic function
- Horizontal shift left 2 units
- Vertical shift down 4 units
- Vertical shrink of $\frac{1}{2}$



Equation: $f(x) = (-x - 1)^3 - 2$

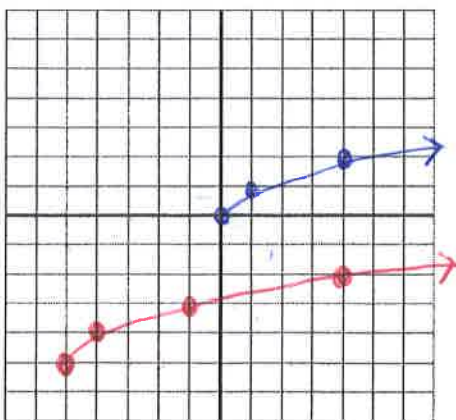
Description:

$(-(x+1))^3 - 2$

Shift left 1
down 2

Reflect across
y-axis

PART 4: Square Root Function

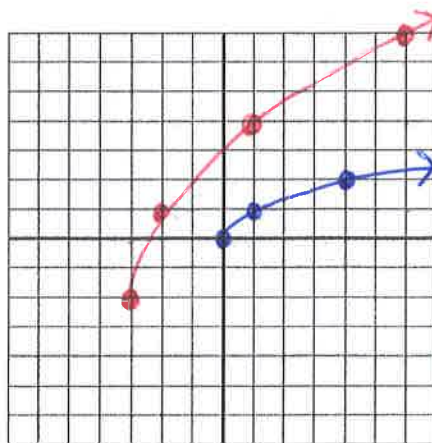


Equation: $f(x) = \sqrt{x+5} - 5$

Description:

Shift left 5

down 5

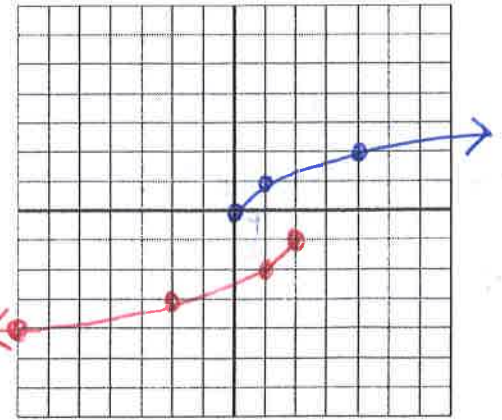


Equation:

$y = 3\sqrt{x+3} - 2$

Description:

- A square root function
- Horizontal shift left 3 unit
- Vertical shift down 2 units
- Vertical Stretch of 3



Equation: $f(x) = -\sqrt{-x+2} - 1$

Description:

$-\sqrt{-1(x-2)} - 1$
Shift right 2, down 1

Reflect across x-
and y-axis