

Key

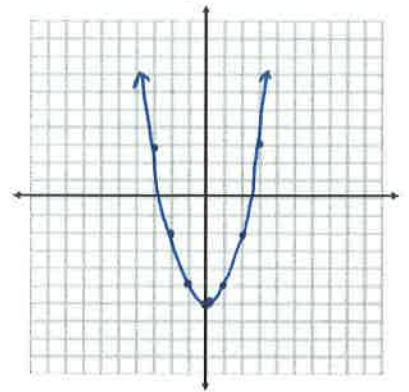
Algebra II: Translations on Parent Functions Review

Name Key Period _____ Date _____

For problem 1- 6, please give the name of the parent function and describe the transformation represented. You may use your graphing calculator to compare & sketch.

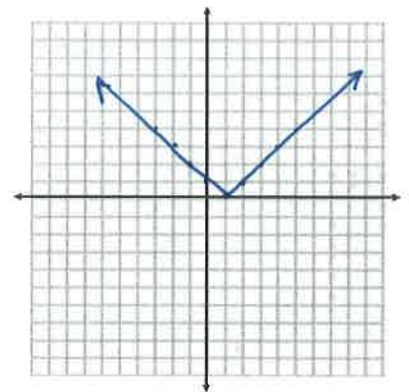
1. $g(x) = x^2 - 6$

Parent: $y = x^2$
Transformations: down 6 units



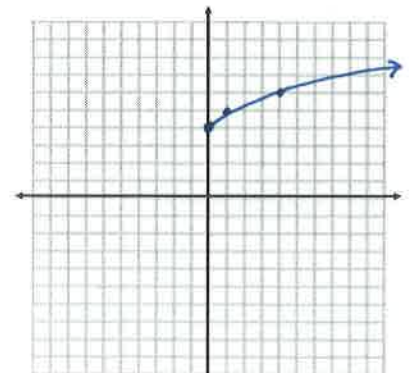
2. $f(x) = |x - 1|$

Parent: $y = |x|$
Transformations: right 1



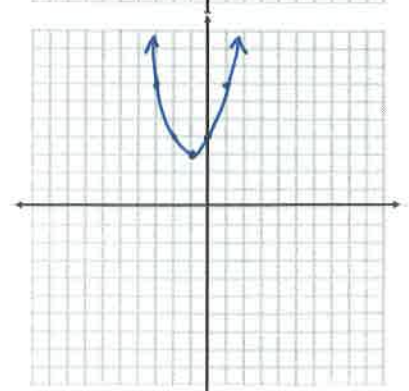
3. $h(x) = \sqrt{x} + 4$

Parent: $y = \sqrt{x}$
Transformations: up 4



4. $g(x) = (x + 1)^2 + 3$

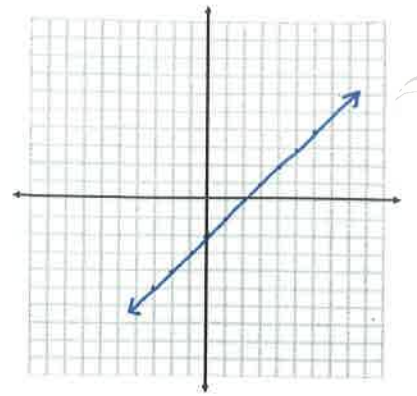
Parent: $y = x^2$
Transformations: left 1, up 3



5. $g(x) = x - 2$

Parent: $y = x$

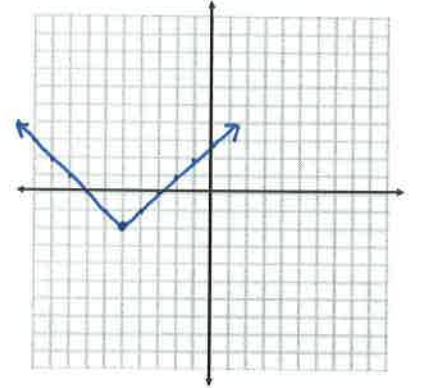
Transformations: down 2



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

Parent: $y = |x|$

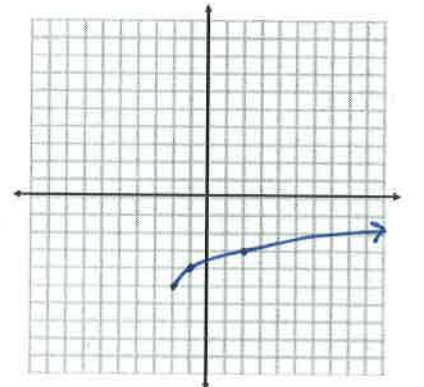
Transformations: left 5, down 2



7. $h(x) = \sqrt{x + 2} - 5$

Parent: $y = x^2$

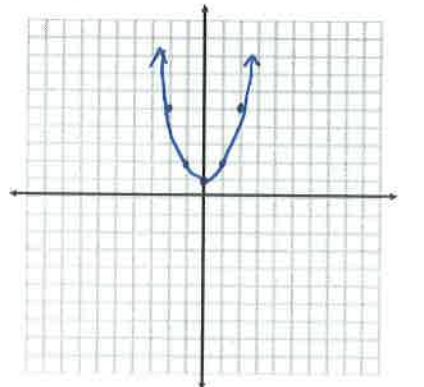
Transformations: left 2, down 5



8. $h(x) = x^2 + 1$

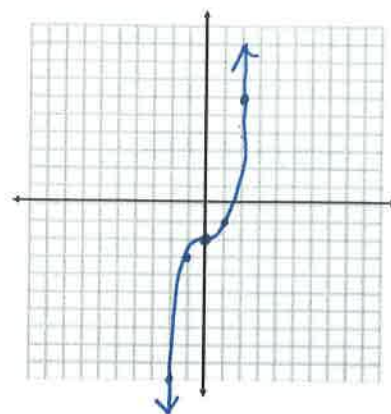
Parent: $y = x^2$

Transformations: up 1



9. $h(x) = x^3 - 2$

Parent: $y = x^3$
 Transformations: down 2



For problems 10 – 14, given the parent function and a description of the transformation, write the equation of the transformed function, $f(x)$.

10. Absolute value—vertical shift down 5, horizontal shift right 3. $f(x) = |x-3| - 5$

11. Linear—vertical shift up 5. $f(x) = x + 5$

12. Square Root —vertical shift down 2, horizontal shift left 7. $f(x) = \sqrt{x+7} - 2$

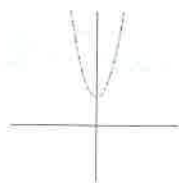
13. Quadratic— horizontal shift left 8. $f(x) = (x+8)^2$

14. Quadratic—vertex at $(-5, -2)$. $f(x) = (x+5)^2 - 2$

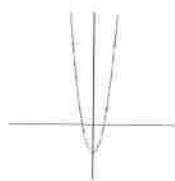
For problems 15 & 16, circle the graph that best represents the given function.

15. $f(x) = x^2 - 2$?

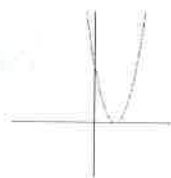
a.



b.



c.

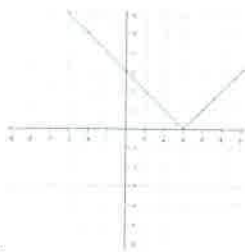


d.



16. $g(x) = |x+3|$?

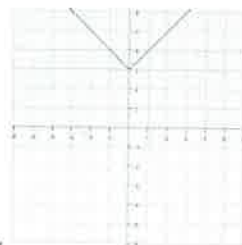
a.



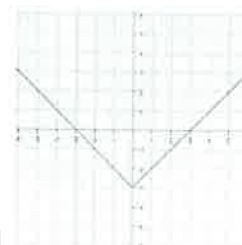
b.



c.

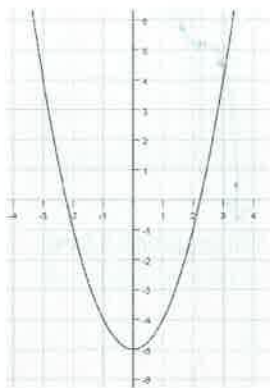


d.

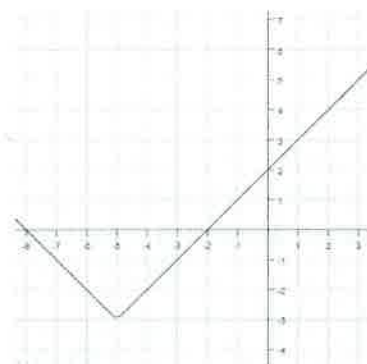


Write the equation for the following translations of their particular parent graphs. You may use $y=$ or function notation (the $f(x)$ type notation).

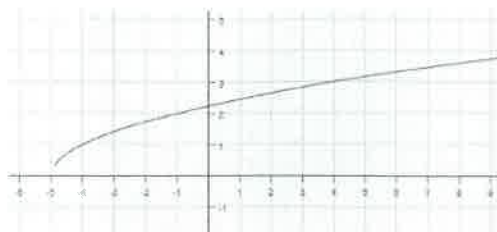
17. $f(x) = x^2 - 5$



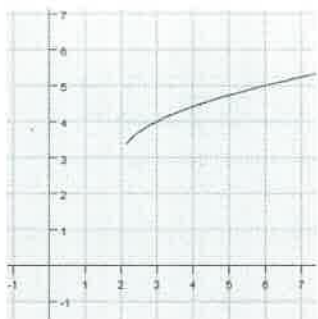
18. $f(x) = |x+5| - 3$



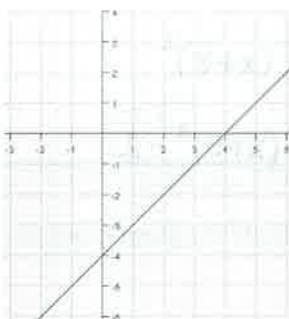
19. $f(x) = \sqrt{x+5}$



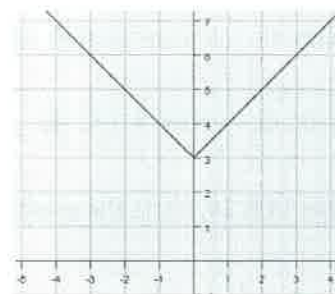
20. $f(x) = \sqrt{x-2} + 3$



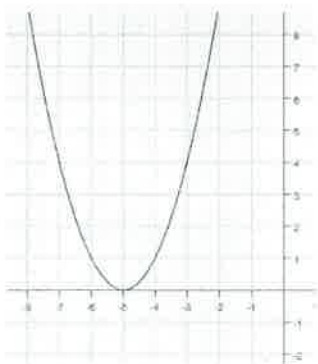
21. $f(x) = x - 4$



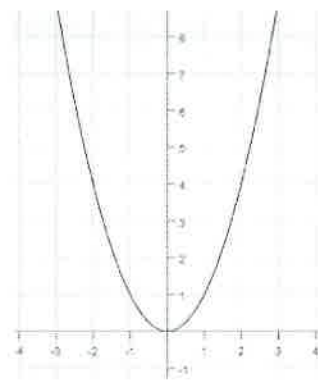
22. $f(x) = |x| + 3$



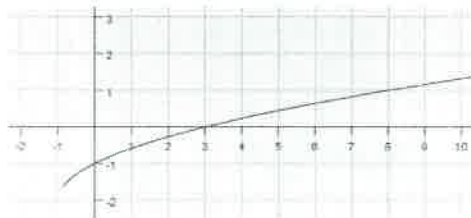
23. $f(x) = (x+5)^2$



24. $f(x) = x^2$



25. $f(x) = \sqrt{x+1} - 2$



Algebra II: Translations on Parent Functions Review

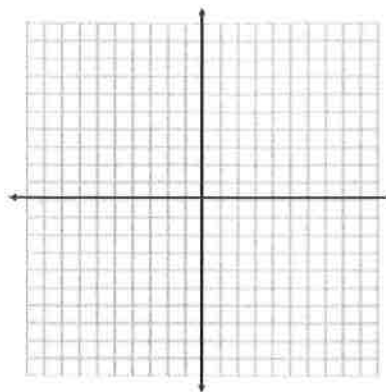
Name _____ Period _____ Date _____

For problem 1- 6, please give the name of the parent function and describe the transformation represented. You may use your graphing calculator to compare & sketch.

1. $g(x) = x^2 - 6$

Parent: _____

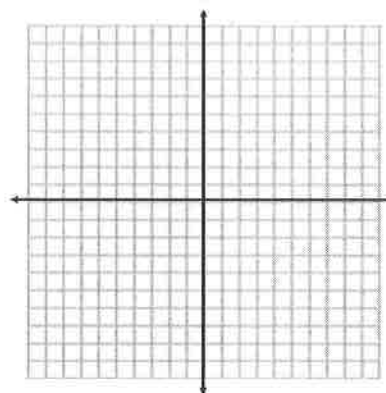
Transformations: _____



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

Parent: _____

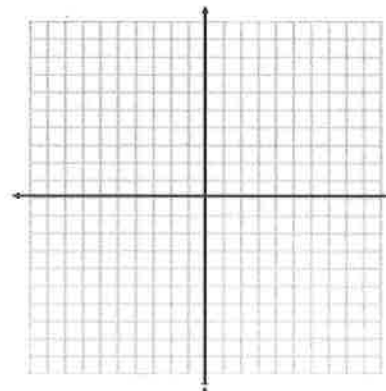
Transformations: _____



3. $h(x) = \sqrt{x} + 4$

Parent: _____

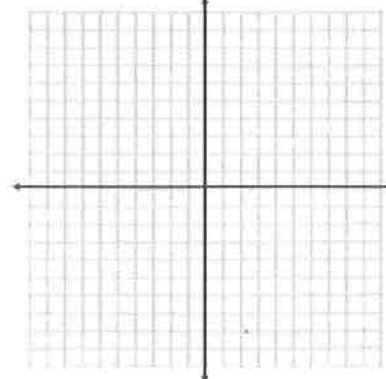
Transformations: _____



4. $g(x) = (x+1)^2 + 3$

Parent: _____

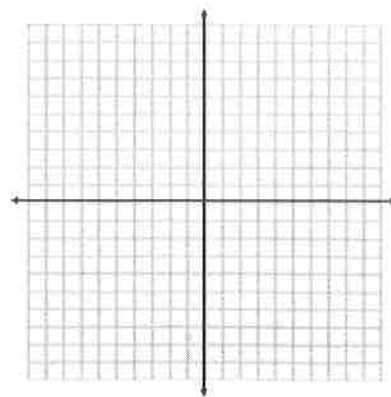
Transformations: _____



5. $g(x) = x - 2$

Parent: _____

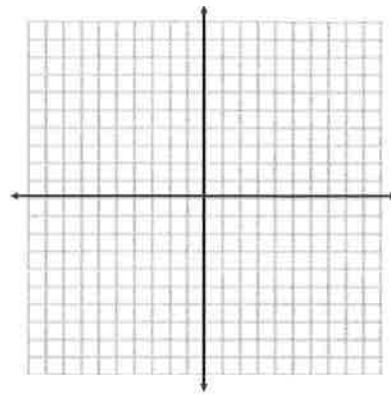
Transformations: _____



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

Parent: _____

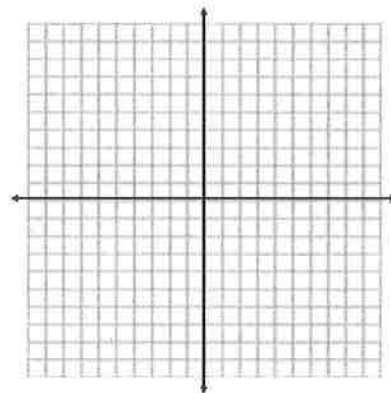
Transformations: _____



7. $h(x) = \sqrt{x + 2} - 5$

Parent: _____

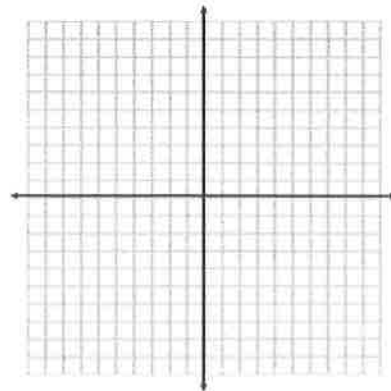
Transformations: _____



8. $h(x) = x^2 + 1$

Parent: _____

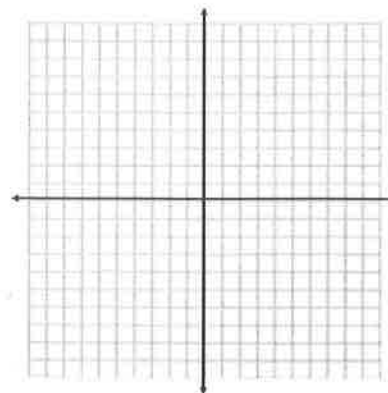
Transformations: _____



9. $h(x) = x^3 - 2$

Parent: _____

Transformations: _____



For problems 10 – 14, given the parent function and a description of the transformation, write the equation of the transformed function, $f(x)$.

10. Absolute value—vertical shift down 5, horizontal shift right 3. _____

11. Linear—vertical shift up 5. _____

12. Square Root —vertical shift down 2, horizontal shift left 7. _____

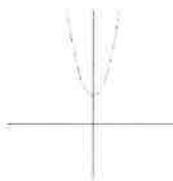
13. Quadratic— horizontal shift left 8. _____

14. Quadratic—vertex at $(-5, -2)$. _____

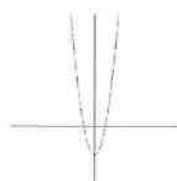
For problems 15 & 16, circle the graph that best represents the given function.

15. $f(x) = x^2 - 2$?

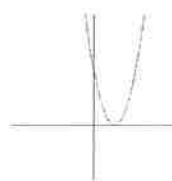
a.



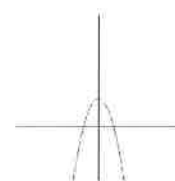
b.



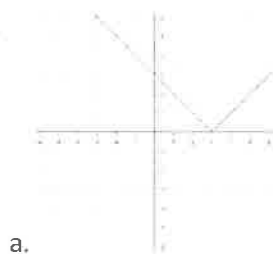
c.



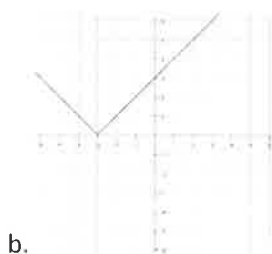
d.



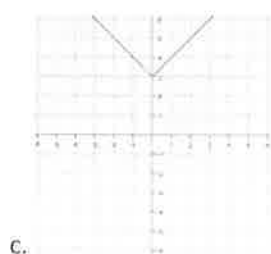
16. $g(x) = |x+3|$?



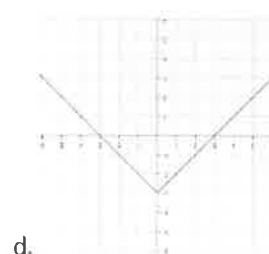
a.



b.



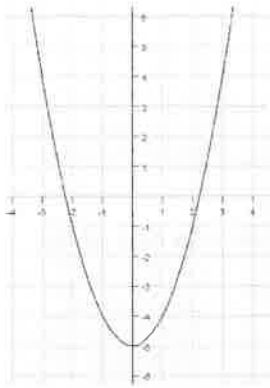
c.



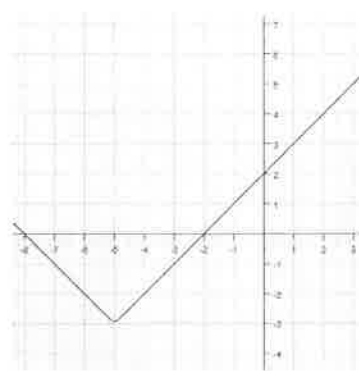
d.

Write the equation for the following translations of their particular parent graphs. You may use $y=$ or function notation (the $f(x)$ type notation).

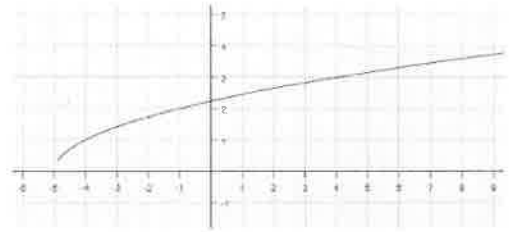
17. _____



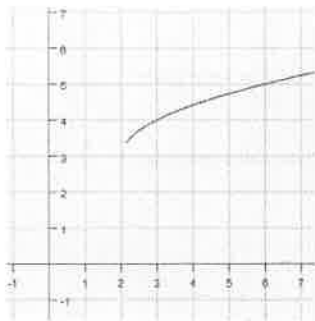
18. _____



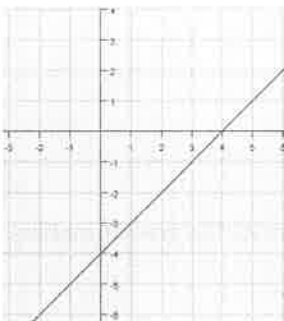
19. _____



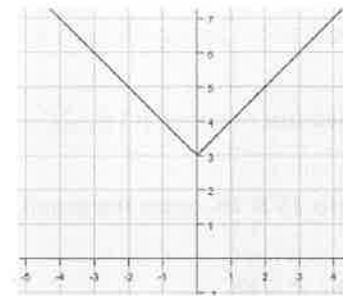
20. _____



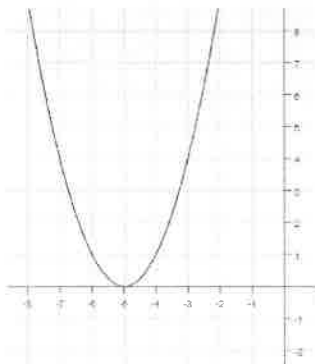
21. _____



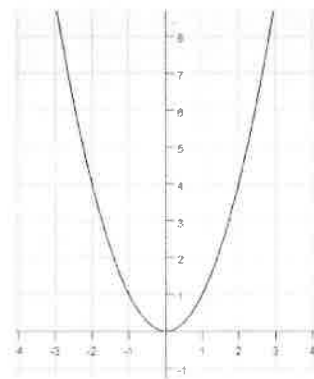
22. _____



23. _____



24. _____



25. _____

