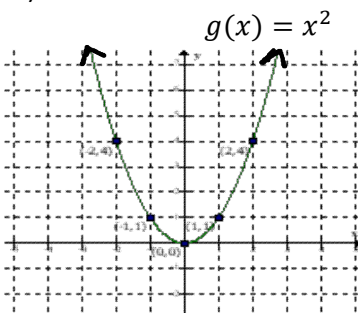


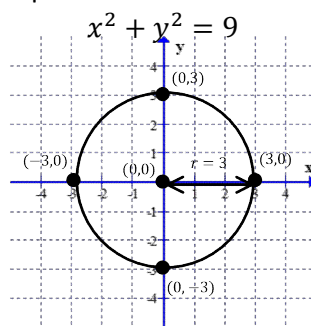
C12 - 1.0 - Function Transformations Review

- 1) Transform the point/s
- a) $(-2,4)$ on $f(x)$.
 - b) $(-1,6)$ and $(3,5)$ on $f(x)$.
 - c) $(2,6)$ and $(4,12)$ on $f(x)$.
 - d) $(-2,-2)$
- A VC=1/2, a HT left 5 and a VT up 1.
- $y + 4 = 2f(2 - x)$.
- $3y = f\left(\frac{1}{2}x\right)$.
- e) $(2,8)$
- $y = |f(x - 1)| + 1$
- $y = -\frac{1}{2}(f(-x - 1) + 4) - 1$

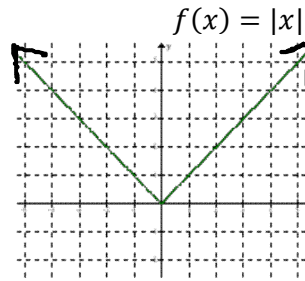
2) Transform and state the new equation.



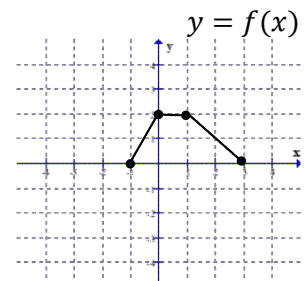
a) $y - 1 = g(x - 3)$.



b) A HT right 2 and a VE=3 and down 2.



c) $y - 1 = \frac{1}{2}f(1 - x)$.



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

3) Find the New Equation, State the Transformations and Graph if :

- a) $f(x) = x^2$. A VT down 1 and a HT left 3.
- b) $f(x) = |x|$. A VT down 1 and a HT left 3.
- c) $f(x) = a^x$. A VE=2, and left 1.
- d) $f(x) = \log x$. Up 2 and left 4.
- e) $f(x) = \frac{1}{x}$. $n(x) = f(1 - x) + 1$.

- f) $f(x) = x^2 - 2x$. A HR and a VR.
- g) $f(x) = -x^3 - x^2 + x + 1$. $n(x) = f(-x) - 2$.

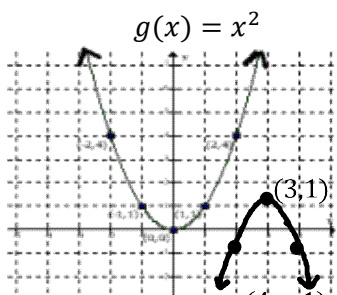
- i) $f(x) = \sqrt{x}$. A HC=1/4, Right 4, & Up 1. $ln y = a\sqrt{x-c} + d$.

- k) $x^2 + y^2 = 4$. Up 5 and a HC=1/2.

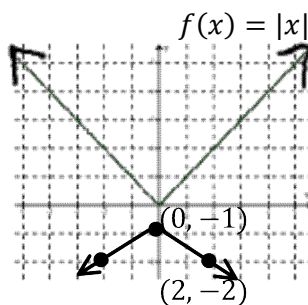
- h) Which equation does not have $f(x) = f(-x)$.
 $f(x) = x^2 + y^2 = 9$
 $f(x) = x^2 + 1$
 $f(x) = -x^3 + x$

- j) $f(x) = \sin x$. $\frac{1}{2}h(x) = f(x + 1) + 1$

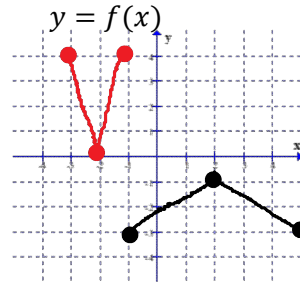
4) State the Transformation and Find the New Equation if :



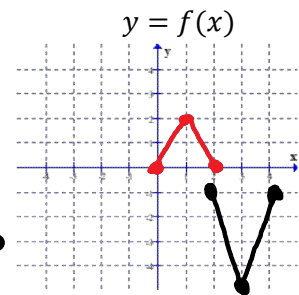
a) $f(x) = ?$



b) $g(x) = ?$



c) $g(x) = af(x - h) + k$



d) $h(x) = af(b(x - h)) + k$

5) If the graph $f(x)$ of has a domain of $-2 \leq x \leq 3$ then the graph of $|f(x)|$ has a domain of:

6) If the graph $f(x)$ has a range of $-2 \leq y \leq 3$ then the graph of $|f(x)|$ has a range of:

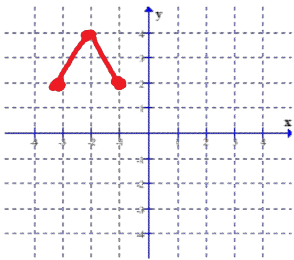
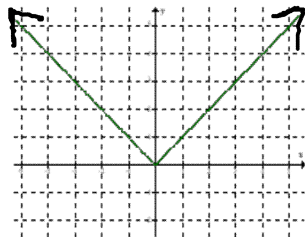
7) If the point $(2,6)$ is on the graph of $2f(x + 1)$ what point is on the graph of $f(x)$.

C12 - 1.0 - Function Transformations Review

8) Find the Inverse Point :

- a) $(-2,4)$
b) $(\frac{1}{2}, -3)$

9) Graph the inverse.



10) Graph and state the domain and range. Find and graph the Inverse and state the domain and range and any invariant points :

- a) $y = \frac{1}{2}x - 1$
b) $y = 2(x - 1)^2 + 1$
c) $y = (x - 1)^3 + 1$
d) $f(x) = \sqrt{x}$
e) $y = \frac{1}{1-x}$
f) $y = \frac{1}{2x}$

11) Are $f(x)$ and $g(x)$ inverses of each other.

$$f(x) = \frac{x}{x+1}$$

$$g(x) = \frac{x}{1-x}$$

12) Find the equation of the graph reflected over the line $y = x$.
 $2 - x = y^2 + 4y$

13) If the point $(-1,9)$ is on the graph of $f^{-1}(x - 1)$ what point is on the graph of $f(x)$.

14) If the point $(4, -1)$ is on the graph of $x + 1 = f(y - 2)$ what point is on the graph of $f(x)$.

15) Transform the point $(-2,4)$ on $f(x)$.

a) $y = f^{-1}(x - 2)$. b) $y = \frac{1}{f^{-1}(x)} + 4$

16) Transform the point $(-2,4)$ on $f(x)$.

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

17) Find the new point.

$$(x, f(x)) = (2,4)$$

a) A vertical expansion by a factor of 2
A vertical translation up 2

b) A vertical translation up 2
A vertical expansion by a factor of 2

18) Find the new equation.

$$f(x) = x^2 \text{ \& } y = f(x)$$

a) A vertical expansion by a factor of 2
A vertical translation up 2

b) A vertical translation up 2
A vertical expansion by a factor of 2

19) Is the following a function or a relation?

- a) $(1,2), (2,3), (3,4)$
b) $(2,2), (2,3), (3,4)$
c) $(1,2), (2,2), (3,4)$

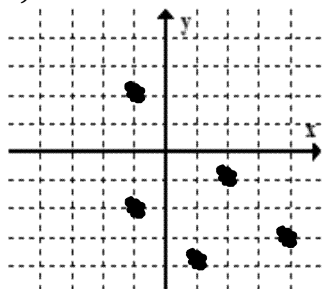
d)

x	y
-4	0
-2	3
0	6
4	12
8	18

20) Graph and state the domain and range and if it is a function or a relation and if it is a one-to-one function. Find and graph the inverse. Is the inverse a function?

- a) $f(x) = x^2$
b) $f(x) = x^3$

e)



21) Is the following even or odd or neither

- a) $f(x) = x^4 - x^2$
b) $f(x) = x^3$
c) $f(x) = x^3 + x^2$

Transform

1) Point/s

2) Graph

Find Equation from

3) Base* function

4) Two graphs

5/6) Domain & Range

7) Backwards!

8-16) Inverse

17/18) Order Matters

19) Function Definition

20) One-to-one

21) Even Odd

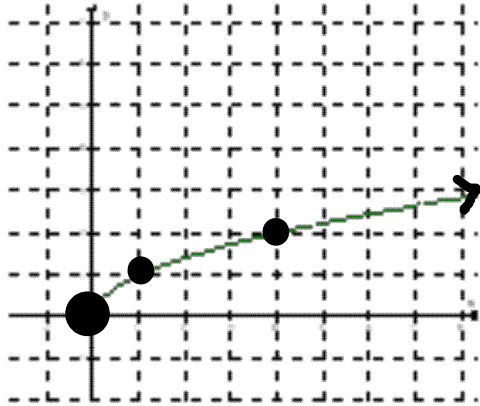
C12 - 1.0 - Radicals Review

1) Transform $f(x) = \sqrt{x}$, and state the new equation.

A HE of 2 and a VT down 2.

a) $y - 1 = 2f(x - 1)$.

b) $-y = f\left(\frac{1}{2}x - 2\right)$.



3) Graph/State the Domain and Range and Asymptote(s) and find any Intercepts.

a) $y = -\sqrt{x + 1} - 1$

b) $y = 2\sqrt{1 - x} - 1$

c) $y = \sqrt{4 - x^2}$

d) $y = \sqrt[3]{x} - 1$

4) Graphing the function and their square roots function and state the domain and range and state any invariant points.

a) $y = x$

b) $y = x^2 - 1$

c) $y = 9 - x^2$

5) Solving.

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

b) $\sqrt{x + 3} - 1 - x = 0$

c) $\sqrt{x - 1} = x$

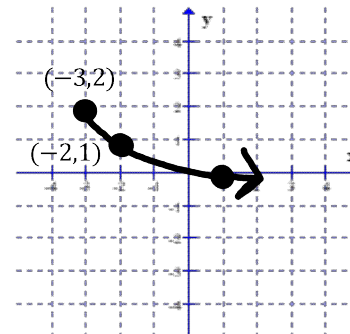
c) $0 = \sqrt[3]{x^2} - x$

6) Find the inverse equation and graph both.

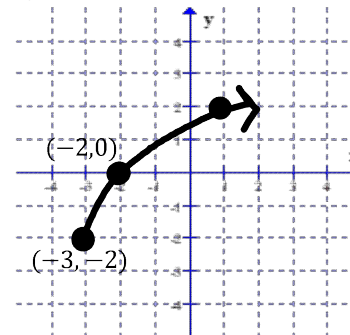
$y = \sqrt{x}$

2) State the Transformation and Find the New Equation if :

a)



b)



1) Transform Graph

2) Find Equation

3) Graph/Domain & Range

4) Square Root Functions

5) Solve

6) Inverse