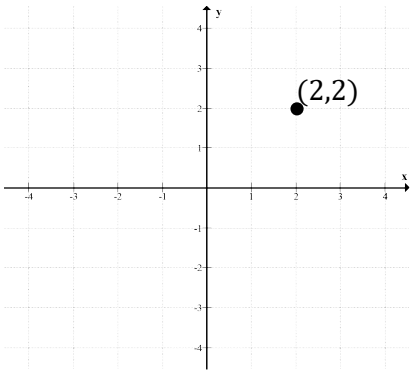
C12 - 1.2 - VHCER Point HW



Point

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

Perform the following operations on the point $(x, f(x))$ *and state the new point and write in mapping notation. Draw the new point on the graph.*

$y = 2f(x)$ $y = \frac{1}{2}f(x)$ $2y = f(x)$ $\frac{1}{3}y = f(x)$ $y = \frac{2}{3}f(x)$

$y = f(2x)$ $y = f\left(\frac{1}{2}x\right)$ $y = f(3x)$

A vertical expansion by a factor of 2

A horizontal compression by a factor of $\frac{1}{2}$

$y = 2f(2x)$ $y = \frac{3}{2}f(2x)$ $\frac{1}{3}y = f\left(\frac{2}{3}x\right)$ $5y = f\left(\frac{1}{3}x\right)$ $y = 2f(5x)$

$y = f(-x)$

A vertical reflection

$-y = f(x)$ $y = -f(-x)$

C12 - 1.2 - VHCER Function Notation f(x) HW

$Solve$

$f(-5) =$

$f(x) = x^2$

$2f(5) =$

Find the new equation of @(x); a transformation of f(x). State the Transformation/s.

$k(x) = f(2x)$

$k(x) = f(\frac{1}{2}x)$

A horizontal compression by a factor of $\frac{1}{2}$

$k(x) = 2f(x)$

$m(x) = \frac{1}{2}f(x)$

A vertical expansion by a factor of 2

$2(x) = f(x)$

$k(x) = f(\frac{3}{2}x)$

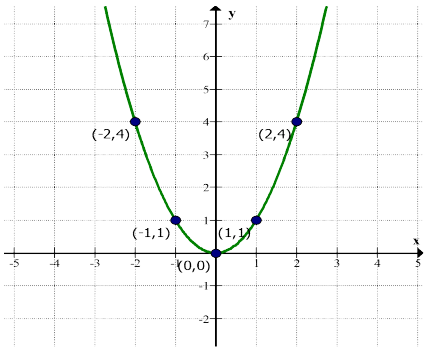
A horizontal expansion by a factor of 2

A vertical compression by a factor of $\frac{1}{2}$

A vertical reflection

$h(x) = -f(x)$

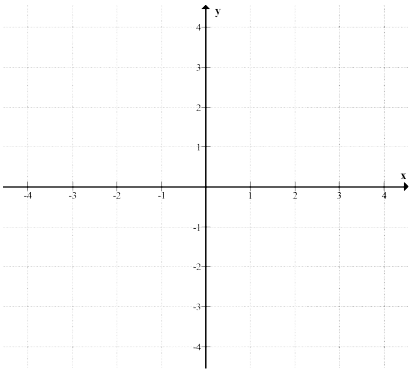
C12 - 1.2 - VHCER Graphs y= HW



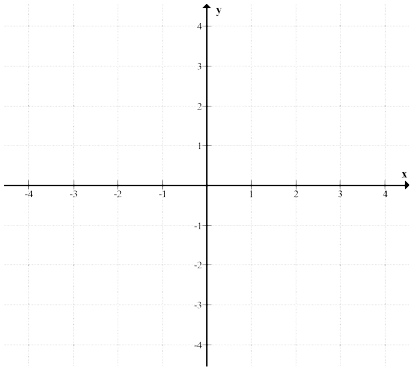
$y = g(x)$

Perform the following operations on the graph $g(x)$ and draw the new graph.

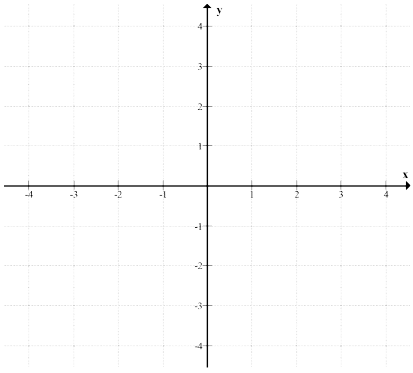
$y = g(2x)$

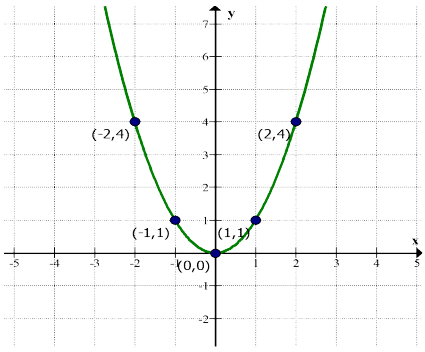


$y = -2g(x)$



$y = g(-x)$

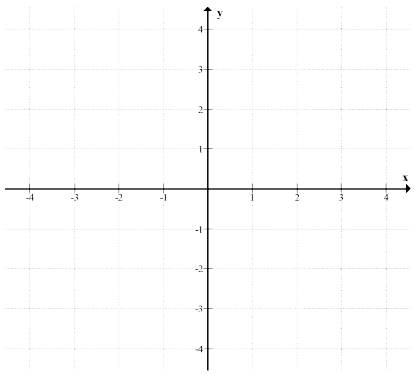




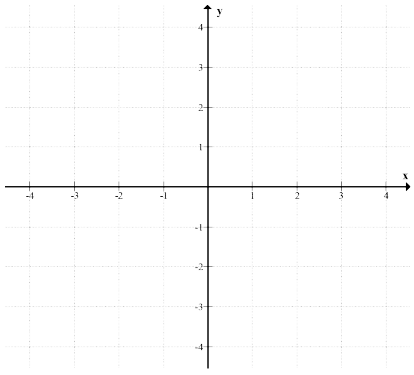
$y = x^2$

Perform the following operations on the equation $y = x^2$ and draw the new graph.

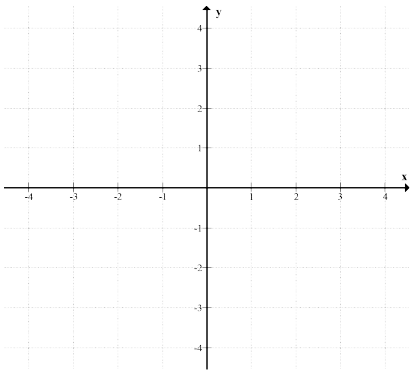
$\frac{1}{2}y = x^2$



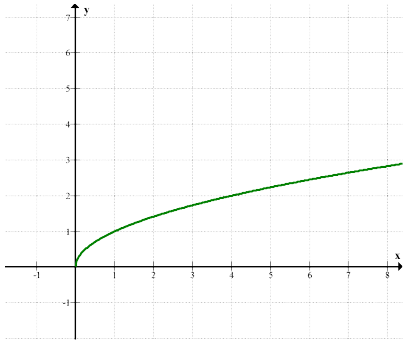
$-y = x^2$



$y = (-x)^2$



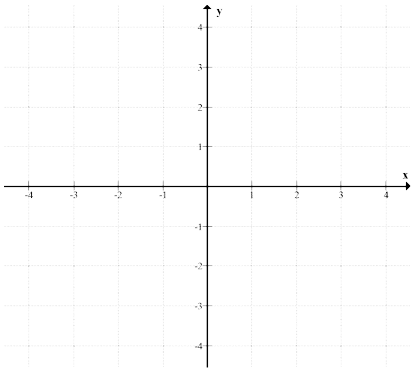
C12 - 1.2 - VHCER Graphs y= HW

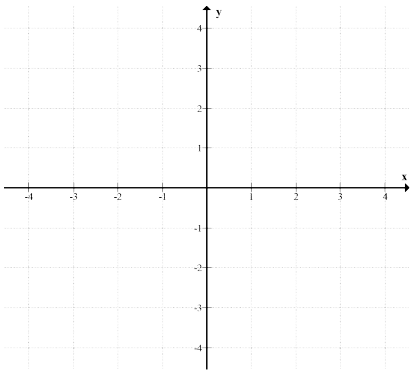


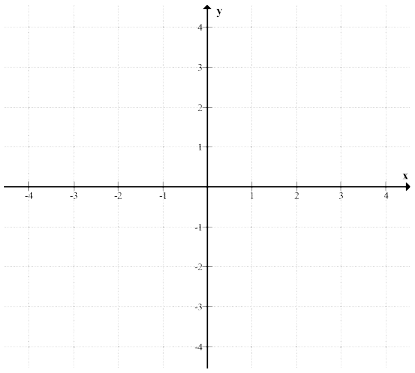
$y = f(x)$

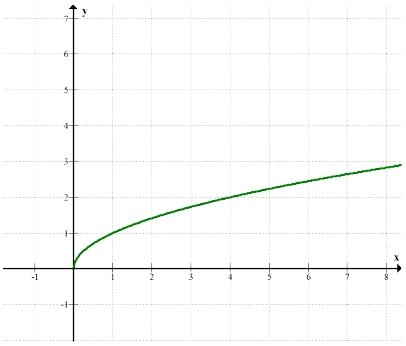
Perform the following operations on the graph $f(x)$ and draw the new graph.

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





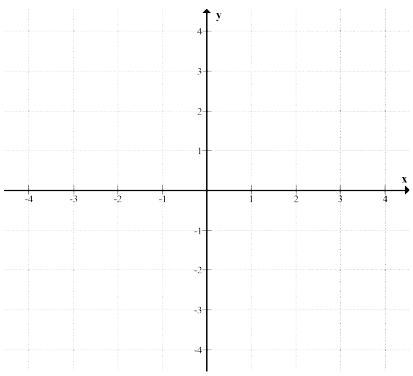


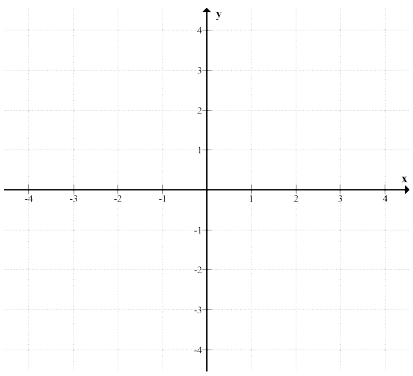


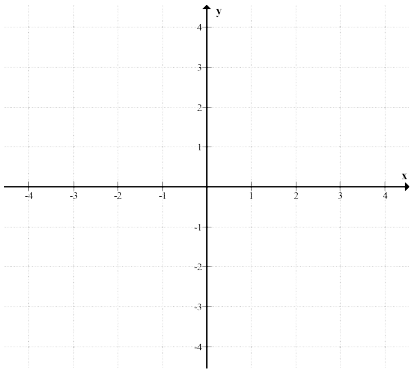
$y = \sqrt{x}$

Perform the following operations on the equation $y = \sqrt{x}$ and draw the new graph.

$y = 2f(x)$ $y = f(2x)$ $-y = f(x)$

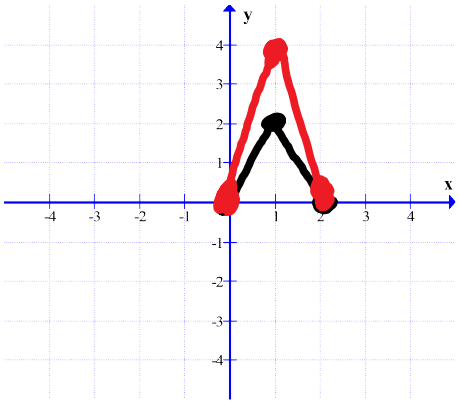






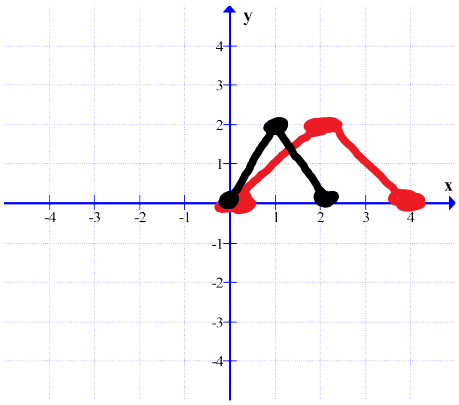
C12 - 1.2 - VHCE Graph f(x) HW

Find the transformed equation of $f(x)$ in all forms.

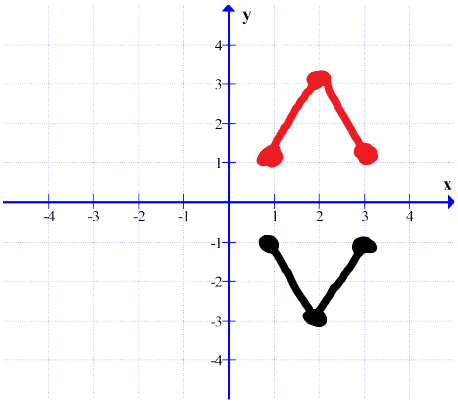


$y = f(x)$

$y = af(x)$ $ay = f(x)$



$y = f(bx)$ $y = f(x)$

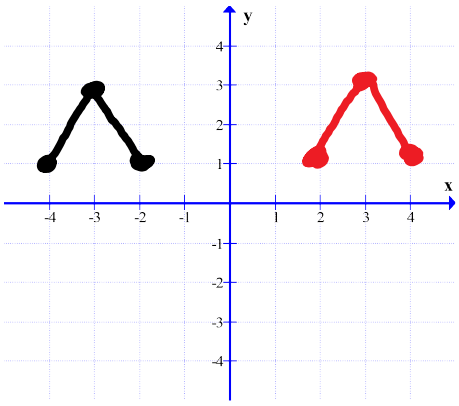


$y = f(x)$

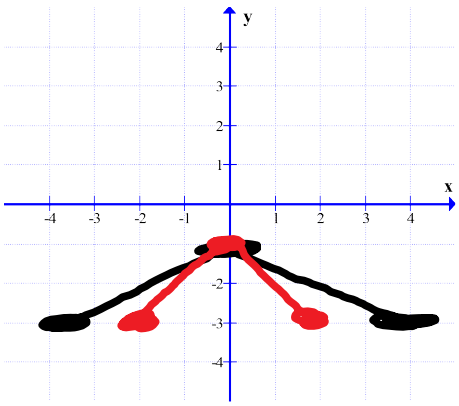
$y = af(x)$ $ay = f(x)$

C12 - 1.2 - VHCE Graph f(x) HW

Find the transformed equation of $f(x)$ in all forms.

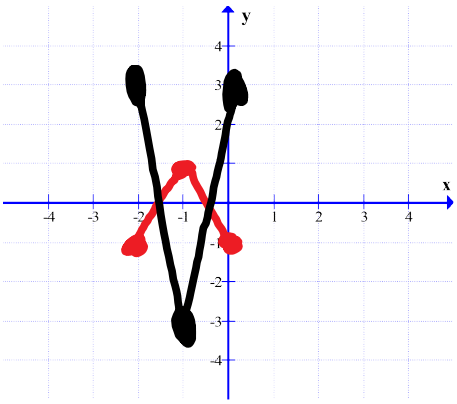


$y = f(bx)$ $y = f(x)$



$y = f(bx)$

$y = f(x)$



$y = f(x)$

$y = af(x)$ $ay = f(x)$