

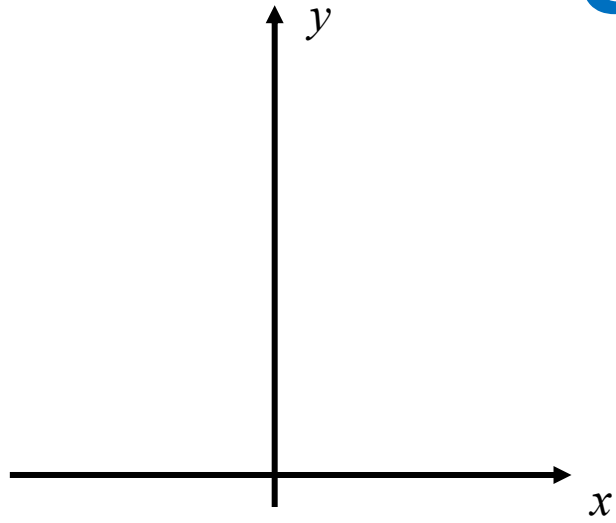
**FAR
BEYOND**

MAT122
Transformations

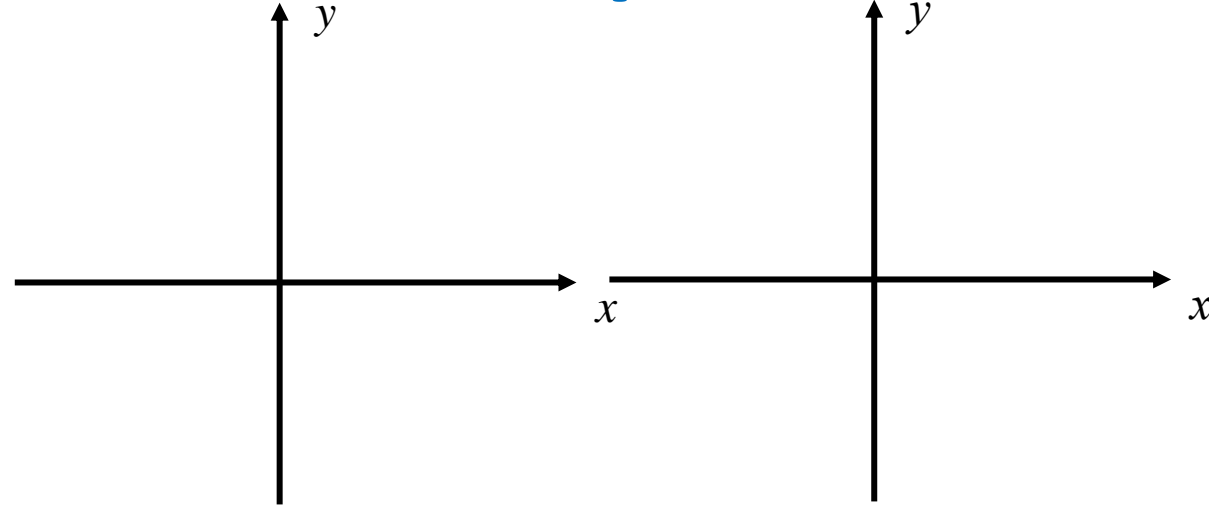


Stony Brook University

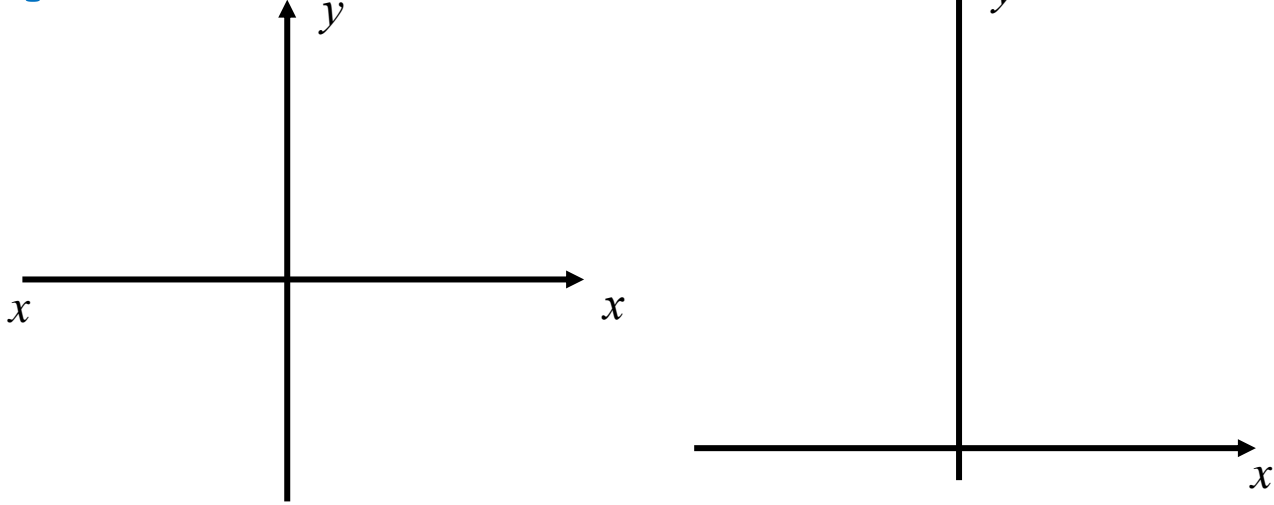
Common Graphs to Know



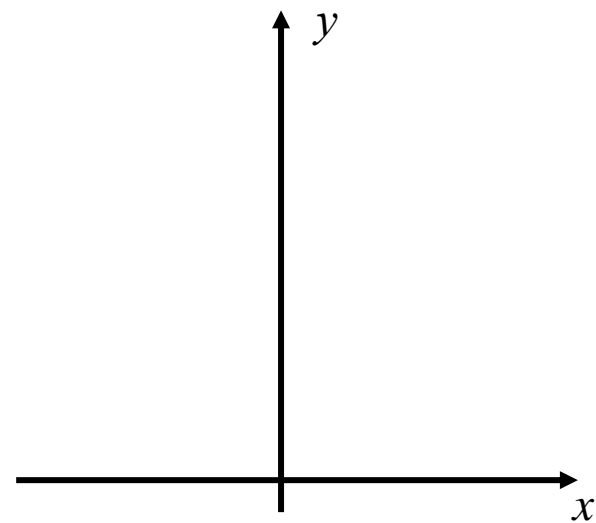
$$y = c$$



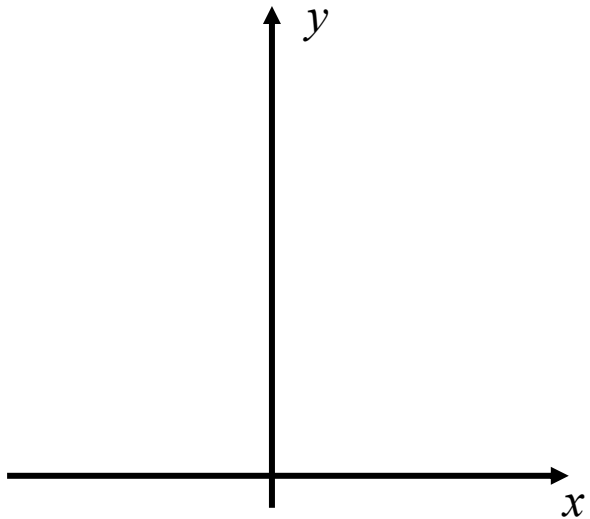
$$y = x$$



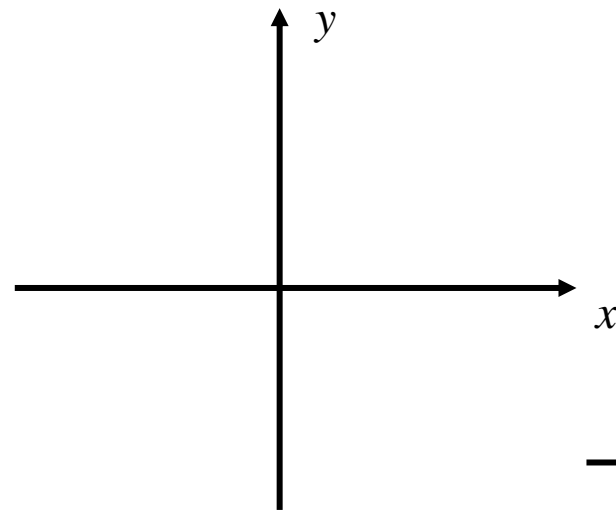
$$y = -x$$



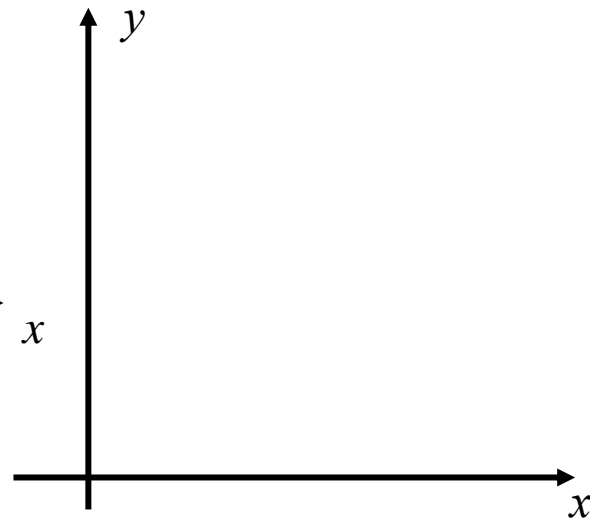
$$y = |x|$$



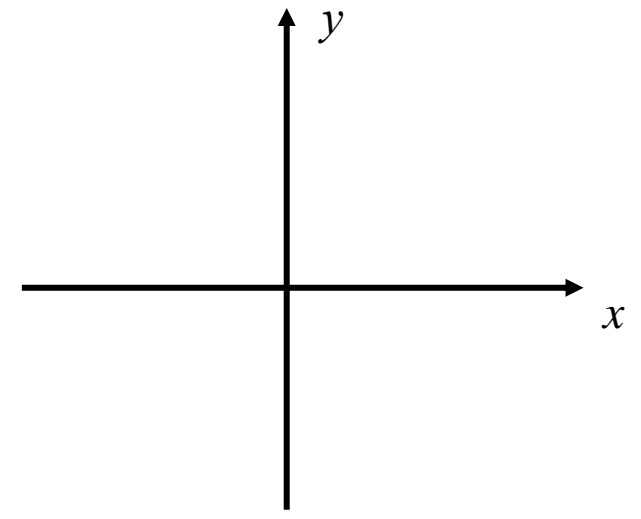
$$y = x^2$$



$$y = x^3$$



$$y = \sqrt{x}$$



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

Shifting Common Graphs

Vertical Shift

$$y = f(x) + C$$

← original graph moves up/down “C” units

Horizontal Shift

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

← original graph moves left/right “C” units in OPPOSITE DIRECTION!

Graphing with Shifts - Do

Use the common graphs to sketch the following:

$$y = |x| + 1$$

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

$$y = (x - 3)^3$$

Reflections of Common Graphs

Reflection about the x -axis

$$y = -f(x)$$

Reflection about the y -axis

$$y = f(-x)$$