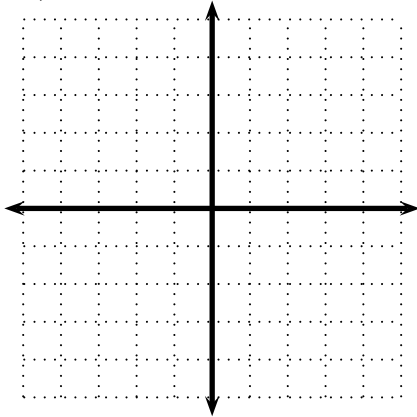
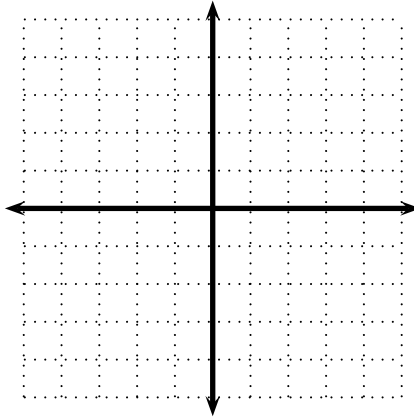


INTRODUCTION: Here we focus on graphing - especially parent graphs, transformations of graphs, properties of parabolas and problems involve max/min.

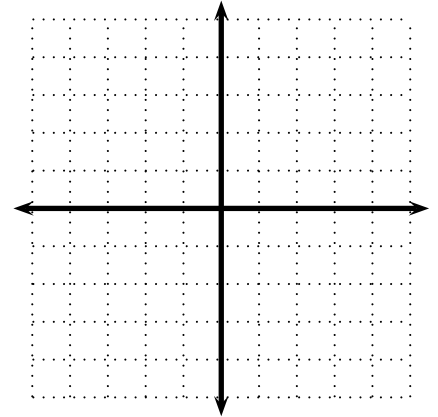
1) Graph each of the parent functions:



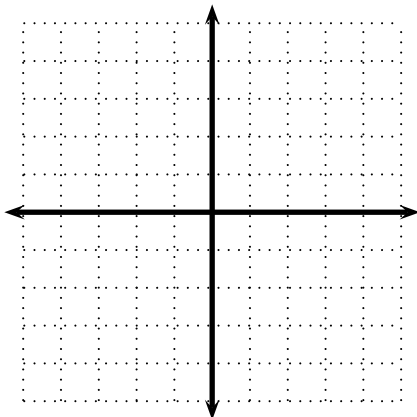
$$y = x$$



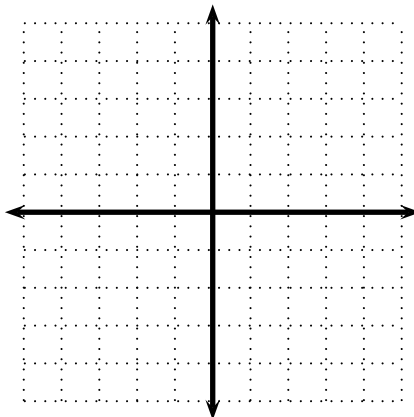
$$y = x^2$$



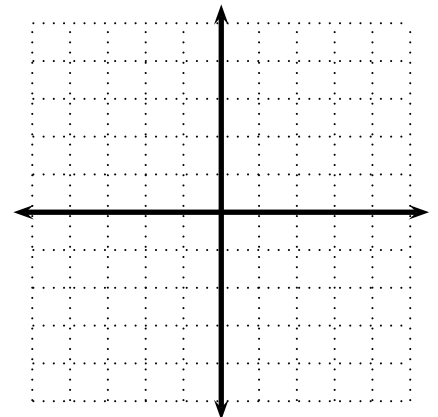
$$y = x^3$$



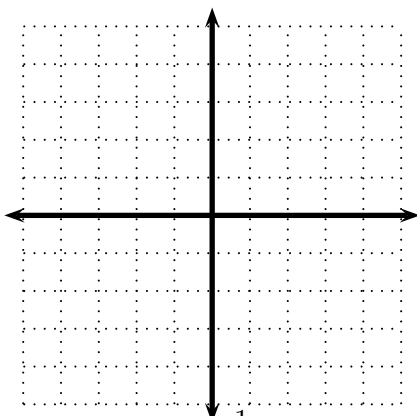
$$y = \sqrt{x}$$



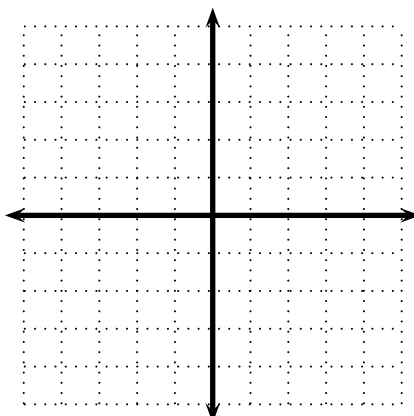
$$y = \sqrt[3]{x}$$



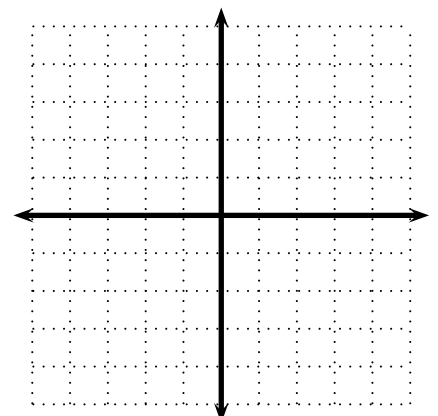
$$y = |x|$$



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

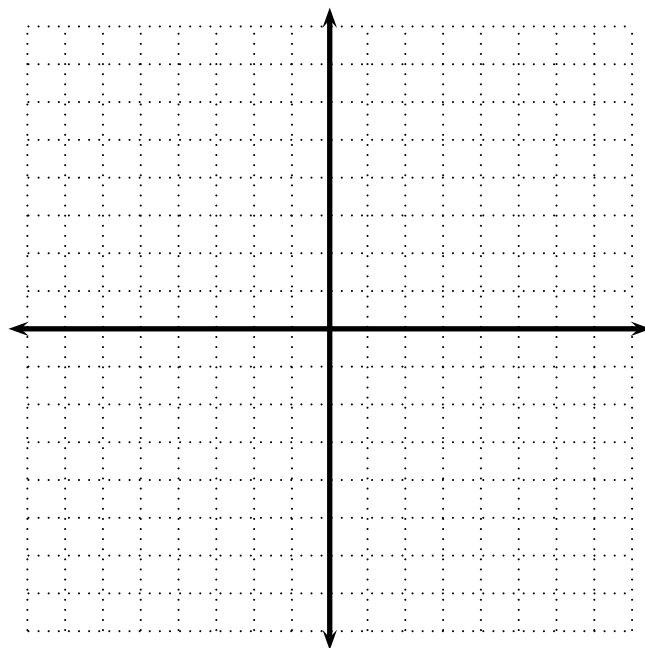


$$y = \ln x$$

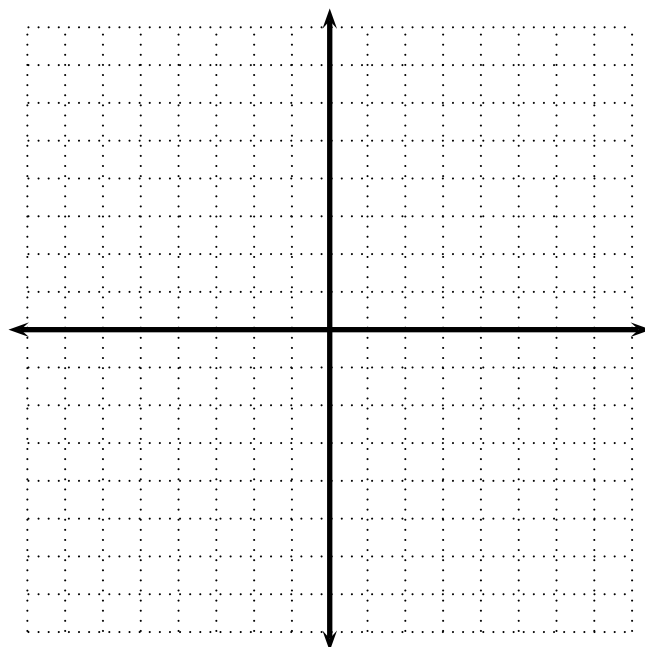


$$y = e^x$$

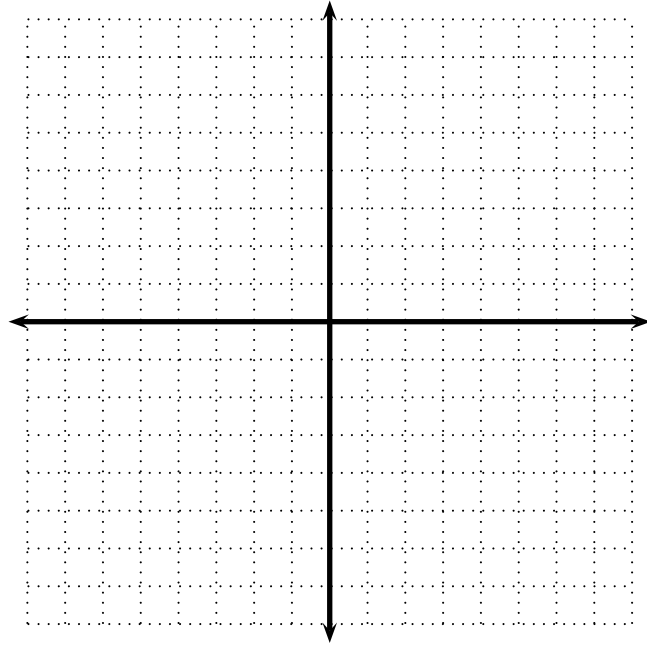
Graph $h(x) = -2|x + 3| + 5$



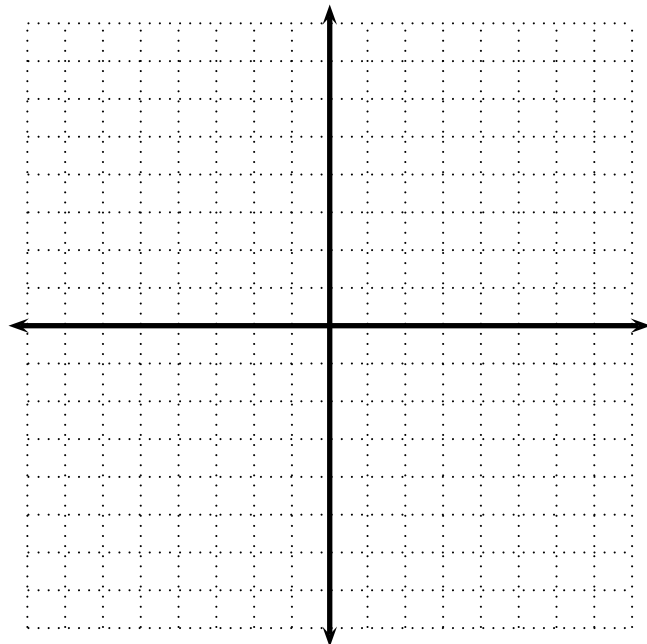
Graph $g(x) = \frac{1}{2}\sqrt{2-x}$



Graph $F(x) = -\left(\frac{1}{2}\right)^x + 3$



Graph $f(x) = 2\log_3(x - 2) - 4$



Given $y = x^2 - 2x - 15$, find the axis of symmetry, the vertex, and all intercepts.

Given $x^2 - 4x + 4y - 4 = 0$, find the axis of symmetry, the vertex, and all intercepts.

Ginger is fencing in a rectangular garden, using the side of her house as one side of the rectangle. What is the maximum area that she can enclose with 40 feet of fence? What should the dimensions of the garden be in order to yield this area?

What is the minimum product of two numbers that differ by 8? What are the numbers?