M$5 Homework 44

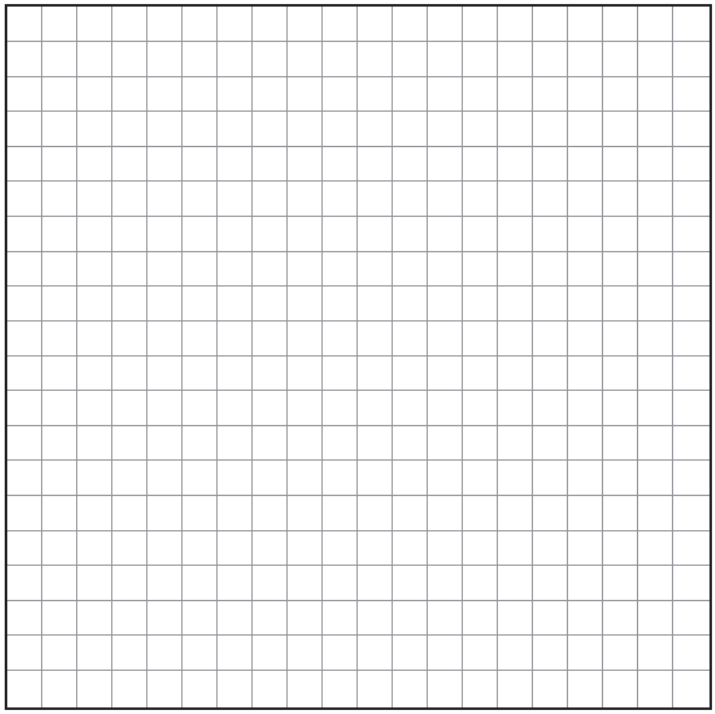
1. Which curve has only one line of symmetry?
   (1) a circle (2) an ellipse (3) a parabola (4) a hyperbola

2. Which of the following is both a function and a hyperbola?
   (1) $y^2 = 9 - x^2$ (2) $y^2 = x^2 - 9$ (3) $y = 9 - x^2$ (4) $xy = 9$

3. Solve the system of equations graphically.

   $4x^2 - 49(y-3)^2 = 196$

   $(x+1)^2 + (y-3)^2 = 36$



4. Pierre throws a coin into the air from the top of the Eiffel Tower in Paris. The coin's motion is described by the equation $y = -4.9x^2 + 20x + 320$, where y represents the height in meters and x represents the time in seconds.

   a) Graph the equation on the accompanying grid and state the window that you used.

   b) How long after being thrown upward does the coin land, to the nearest tenth of a second?

   c) What is the coin's maximum height to the nearest tenth of a meter?