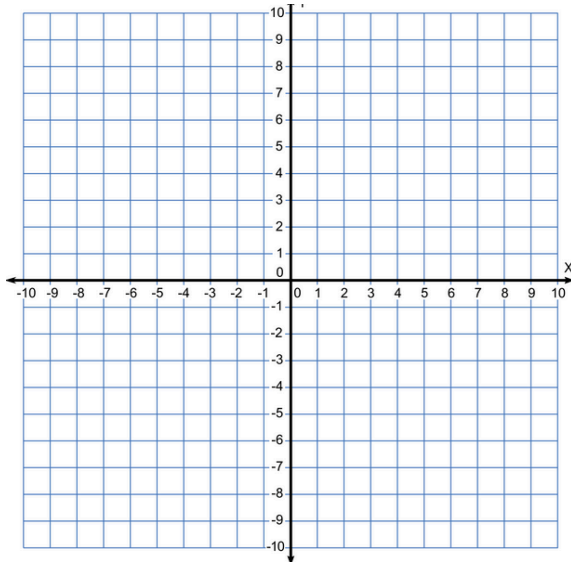


1) The parabola $y = x^2 - 4x + 3$ has its vertex at:

- A. (2,-1)
- B. (1,-2)
- C. (2,3)
- D. (0,3)

2) Sketch the graph and its inverse:



3) Explain why the inverse is not a function:

4) Which restriction would make the inverse a function?

- A. Restrict domain to $x \geq 2$
- B. Restrict domain to $x \leq 2$
- C. Both A and B work
- D. No restriction works

5) For the hyperbola $x^2/9 - y^2/16 = 1$, the equations of the asymptotes are:

- A. $y = \pm 4/3x$
- B. $y = \pm 3/4x$
- C. $y = \pm 9/16x$
- D. $y = \pm 16/9x$

6) Multiple Choice: Which of the following is the equation of the Witch of Agnesi?

A. $y = 8a^3/(x^2+4a^2)$

B. $y^2 = 4ax$

C. $x^2 - y^2 = a^2$

D. $x^3 + y^3 = 3axy$

7) Briefly describe how this curve is constructed geometrically.

8) Multiple Choice: The equation of the Folium of Descartes is:

A. $x^2 + y^2 = r^2$

B. $y = 1/x$

C. $x^3 = y^2$

D. $x^3 + y^3 = 3axy$

9) Multiple Choice: The equation of the Cissoid of Diocles is:

A. $y^2 = x^3/(2a - x)$

B. $y^2 = 4ax$

C. $x^2 - y^2 = a^2$

D. $y = 8a^3/(x^2+4a^2)$

10) Briefly describe how you would model the Cissoid of Diocles in GeoGebra: