EMCF16 – Math 1432, 13209

The answer sheet for this assignment can be found by logging into CourseWare at http://www.casa.uh.edu, selecting Math 1432(13209), clicking on the EMCF tab at the top of the page, and selecting EMCF16.

1. The polar curve $r = 2 \cos(\theta)$ is a
   a. horizontal line
   b. vertical line
   c. parabola
   d. circle
   e. hyperbola

2. The polar curve $r = 3 \sin(\theta)$ is a
   a. horizontal line
   b. vertical line
   c. parabola
   d. circle
   e. hyperbola

3. The polar curve $r = 3 \tan(\theta) \sec(\theta)$ is a
   a. horizontal line
   b. vertical line
   c. parabola
   d. circle
   e. hyperbola

4. The polar curve $r = 3 \cot(\theta) \csc(\theta)$ is a
   a. horizontal line
   b. vertical line
   c. parabola
   d. circle
   e. hyperbola

5. The polar curve $r = 2 \sec(\theta)$ is a
   a. horizontal line
   b. vertical line
   c. parabola
   d. circle
   e. hyperbola

6. The polar curve $r = \csc(\theta)$ is a
   a. horizontal line
   b. vertical line
   c. parabola
   d. circle
   e. hyperbola
7. The curve \((x - 1)^2 + y^2 = 1\) is given by the polar curve
   a. \(r = \cos(\theta)\)
   b. \(r = 2\cos(\theta)\)
   c. \(r = 2\sin(\theta)\)
   d. \(r = \sin(\theta)\)
   e. None of these.

8. The curve \(x^2 + (y - 2)^2 = 4\) is given by the polar curve
   a. \(r = 4\cos(\theta)\)
   b. \(r = 2\cos(\theta)\)
   c. \(r = 2\sin(\theta)\)
   d. \(r = 4\sin(\theta)\)
   e. None of these.

9. The curve \(x^2 + y^2 = 1\) is given by the polar curve
   a. \(r = \cos(\theta)\)
   b. \(r = 2\cos(\theta)\)
   c. \(r = 2\sin(\theta)\)
   d. \(r = \sin(\theta)\)
   e. None of these.

10. Give the number of different polar representations for the point (1,1).
    a. There is exactly one.
    b. There are exactly two.
    c. This is a special point that does not have a polar representation.
    d. There are infinitely polar representations for this point.
    e. None of these.