Lesson 9.3 Practice: Graphing Polar Equations

School Launch · Trigonometry · Unit 9: Polar Coordinates and Vectors · Worksheet A

Scientific calculator

Name _____ Date _____ Score _____ / 10

Show your work under each problem, one step per line, and check your answer. Word problems: name the unknown, write the equation, solve, and answer in a sentence with units.

1. For the cardioid $r = 1(1 + \cos\theta)$, find the maximum value of r and where $r = 0$ on $[0, 2\pi)$. EASY

2. How many petals does the rose $r = 5\cos(5\theta)$ have, and how long is each? EASY

3. Convert $r = 4\sin\theta$ to rectangular form and give the circle's center and radius. EASY

4. For the cardioid $r = 3(1 + \cos\theta)$, find the maximum value of r and where $r = 0$ on $[0, 2\pi)$. MEDIUM

5. Convert $r = 6\sin\theta$ to rectangular form and give the circle's center and radius. MEDIUM

6. Convert $r = 8\sin\theta$ to rectangular form and give the circle's center and radius. MEDIUM

7. How many petals does the rose $r = 2\cos(6\theta)$ have, and how long is each? MEDIUM

8. For the cardioid $r = 2(1 + \cos\theta)$, find the maximum value of r and where $r = 0$ on $[0, 2\pi)$. HARD

9. Convert $r = 12\sin\theta$ to rectangular form and give the circle's center and radius. HARD

10. How many petals does the rose $r = 4\cos(5\theta)$ have, and how long is each? HARD