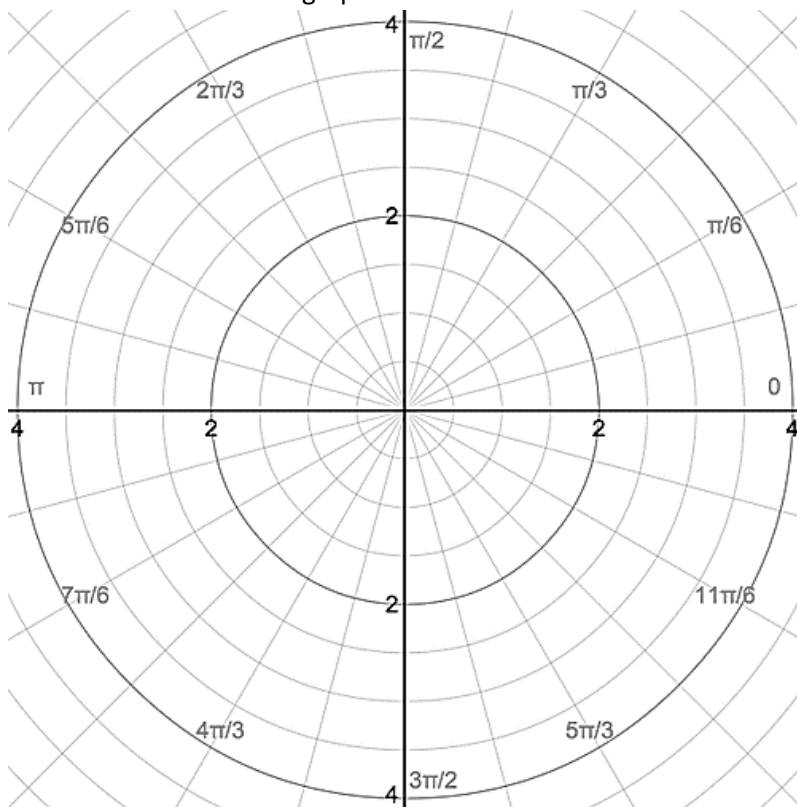


Instructions: Show all work. Use exact answers unless specifically asked to round. Answer all parts of each question.

1. Convert the equation $x^2 = 6y$ into polar coordinates and solve for r .
2. Convert the equation $r = 8 \cos \theta + 2 \sin \theta$ into rectangular coordinates.
3. Plot $r = 4 \sin 2\theta$ on the graph below.



4. Write $z = 1 + i$ in polar form.

5. Write $z = 2e^{\left(\frac{3\pi}{4}\right)i}$ in standard form.