

Graph each of the following polar equations listed below for  $0 \leq \theta < 2\pi$  in increments of  $\frac{\pi}{12}$ .

1. Download the graphing page and print one page for each equation (9 pages)
2. Write the equation being graphed in the location listed in the top left of the graph page
3. Complete the table for ALL values of  $\theta$  listed. Round off values of  $r$  to 1 decimal place.
4. Plot each of the  $(r, \theta)$  points on the graph and complete the graph for  $0 \leq \theta < 2\pi$

**Equations:**

1.  $r = -3\sin \theta$

2.  $r = -4\cos \theta$

3.  $r = 2 - 2\cos \theta$

4.  $r = 2 + 2\sin \theta$

5.  $r = 1 - 3\cos \theta$

6.  $r = 4\cos 2\theta$

7.  $r = 4\sin 3\theta$

8.  $r = 3^\theta$

9.  $r^2 = 16 \sin 2\theta$