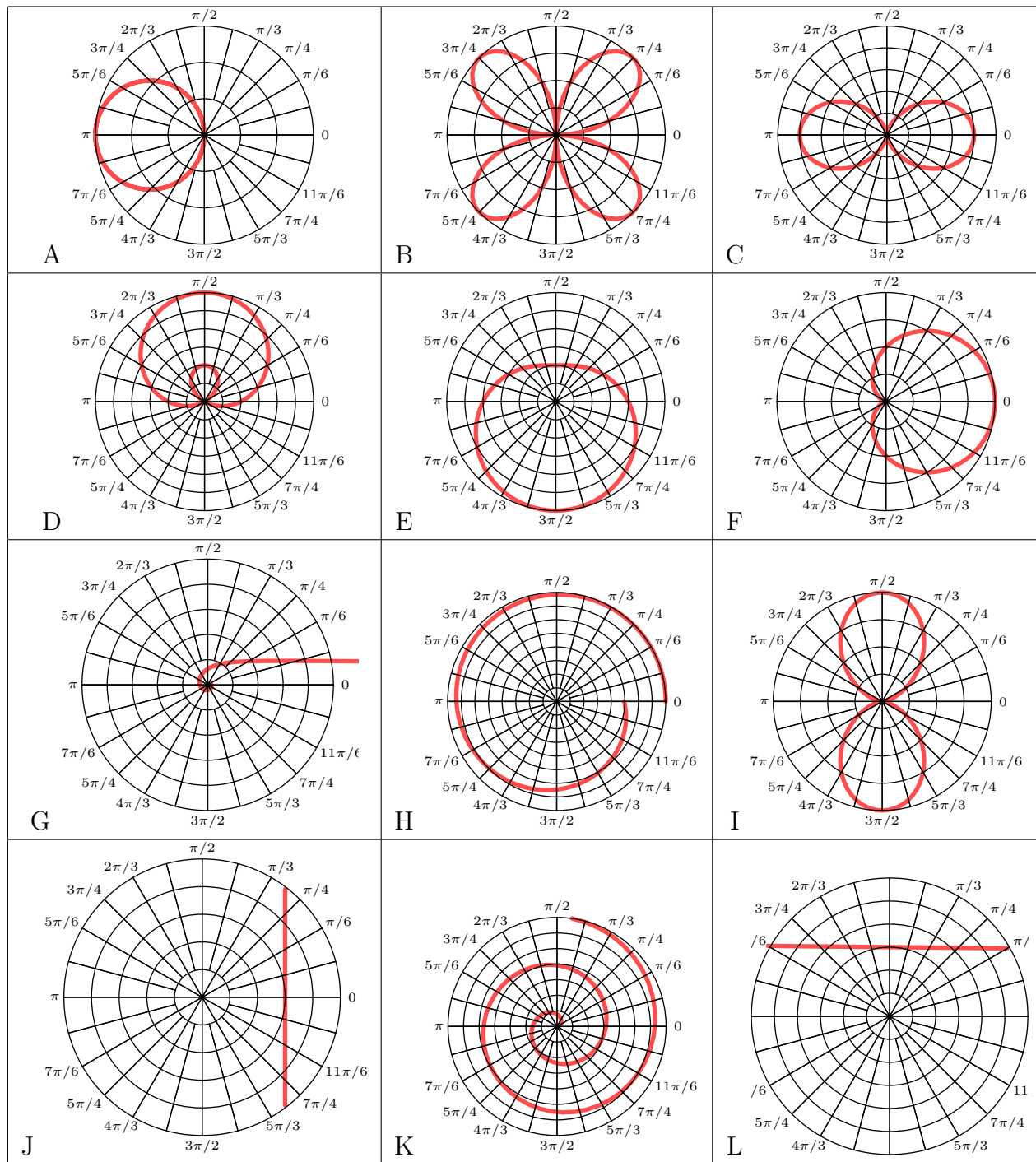


# Match the polar graphs to the equations below

Not all equations will match a graph.



1.  $r = 2 + 4 \sin(\theta)$  \_\_\_\_\_

2.  $r = 3 \sec(\theta)$  \_\_\_\_\_

3.  $r = 4 + 2 \sin(\theta)$  \_\_\_\_\_

4.  $r = 2 + 2 \cos(\theta)$  \_\_\_\_\_

5.  $r = 4 \cos^2(\theta)$  \_\_\_\_\_

6.  $r = -3 \cos(\theta)$  \_\_\_\_\_

7.  $r = 4 + 2 \cos(\theta)$  \_\_\_\_\_

8.  $r = 4 \sin(2\theta)$  \_\_\_\_\_

9.  $r = 4 - 2 \sin(\theta)$  \_\_\_\_\_

10.  $r = 1/\theta$  \_\_\_\_\_

11.  $r = \theta/2$  \_\_\_\_\_

12.  $r = \sqrt{64 - \theta^2}$  \_\_\_\_\_

13.  $r = 4 \sin^2(\theta)$  \_\_\_\_\_

14.  $r = 3 \csc(\theta)$  \_\_\_\_\_

15.  $r = -\tan(\theta)$  \_\_\_\_\_

For each of the following, determine the x and y intercepts, the zeros, and the maximum value of  $|r|$

1.  $r = 2 + 4 \sin(\theta)$

9.  $r = 4 - 2 \sin(\theta)$

2.  $r = 3 \sec(\theta)$

10.  $r = 1/\theta$

3.  $r = 4 + 2 \sin(\theta)$

11.  $r = \theta/2$

4.  $r = 2 + 2 \cos(\theta)$

12.  $r = \sqrt{64 - \theta^2}$

5.  $r = 4 \cos^2(\theta)$

13.  $r = 4 \sin^2(\theta)$

6.  $r = -3 \cos(\theta)$

14.  $r = 3 \csc(\theta)$

7.  $r = 4 + 2 \cos(\theta)$

15.  $r = -\tan(\theta)$

8.  $r = 4 \sin(2\theta)$