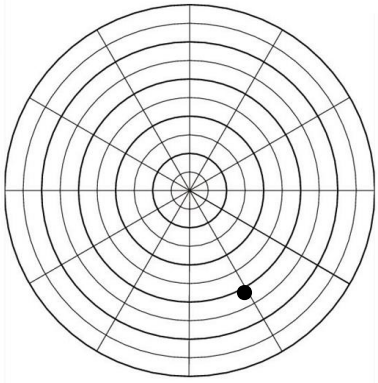
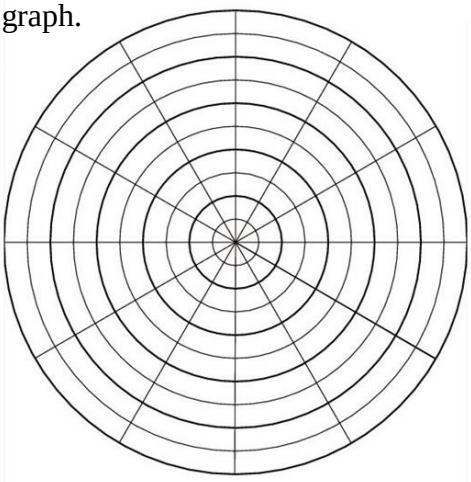
Ch. 9 Test REVIEW (Lessons 9.1-9.3)
Adv. Math Name_____

1. Name ALL the possible polar coordinates of the point on the graph.



2. Graph the polar equations. Label each on the graph.



   a. $r = 4$

   b. $\theta = \frac{-\pi}{3}$

   c. [7, 225º]

   d. [-5, 90º]

3. Find the distance between the two points: $P_1[1.3, -47°]$ and $P_2[-3.6, -62°]$

4. Find the distance between the two points: $P_1[1, \frac{\pi}{6}]$ and $P_2[5, \frac{3\pi}{4}]$

3. Write a polar equation for each:

a. rose curve with 12 petals, each of length 4 _____

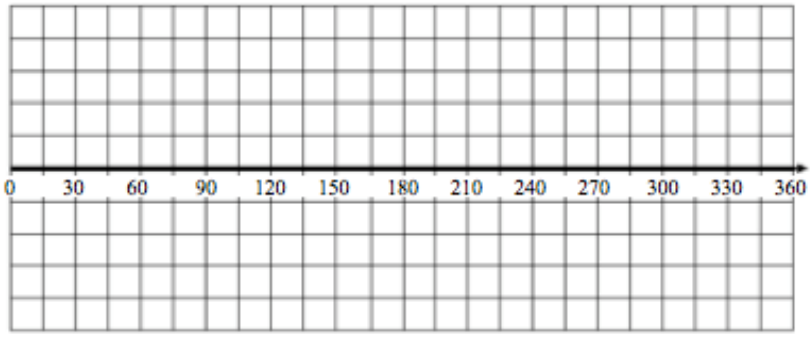
b. limacon with a loop _____

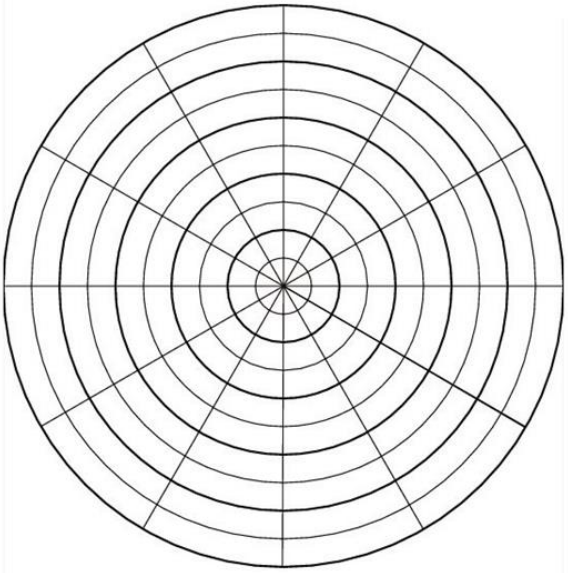
c. limacon with a dimple _____

d. cardioid _____

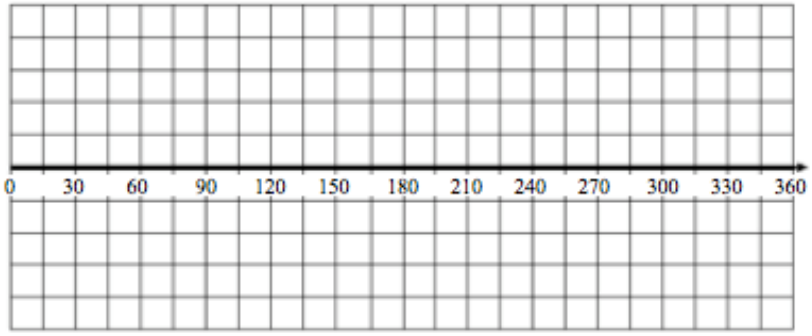
e. rose curve with 5 petals, each of length 3 _____

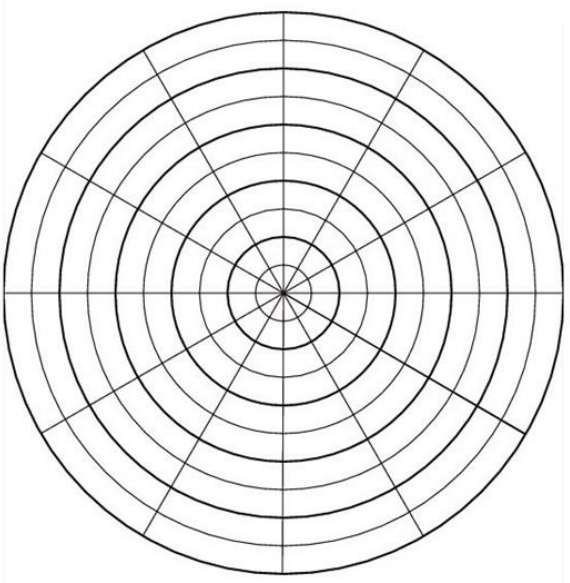
4. Graph both rectangular and polar graphs: $r = 5\sin 4\theta$



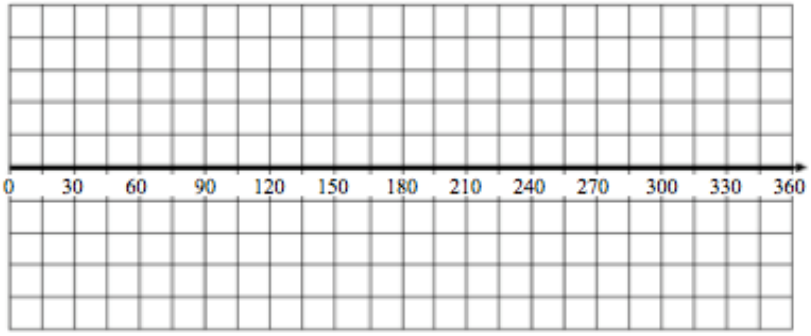


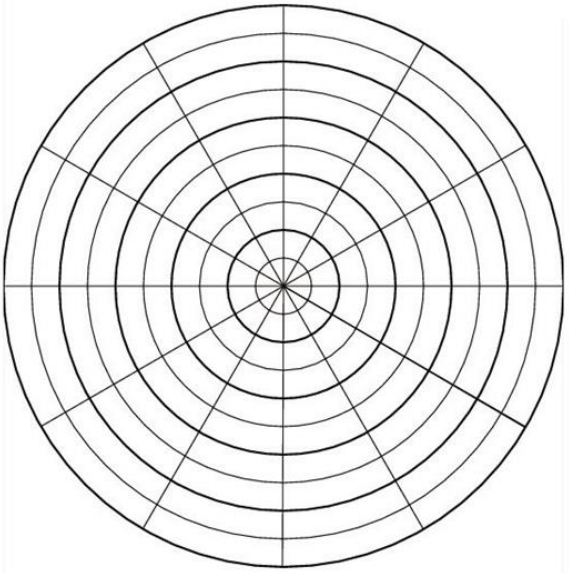
5. Graph both rectangular and polar graphs: $r = 3 + 4\cos q$



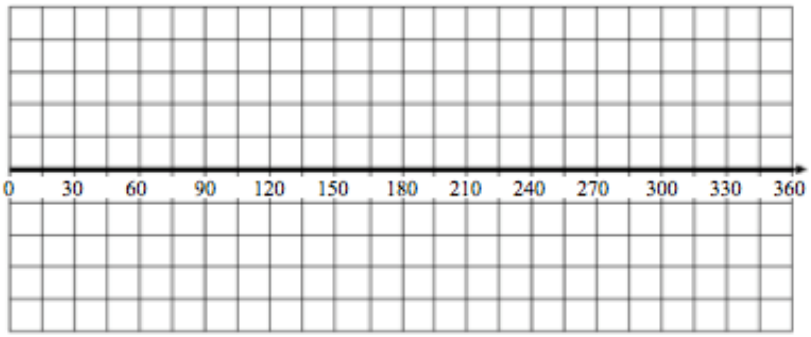


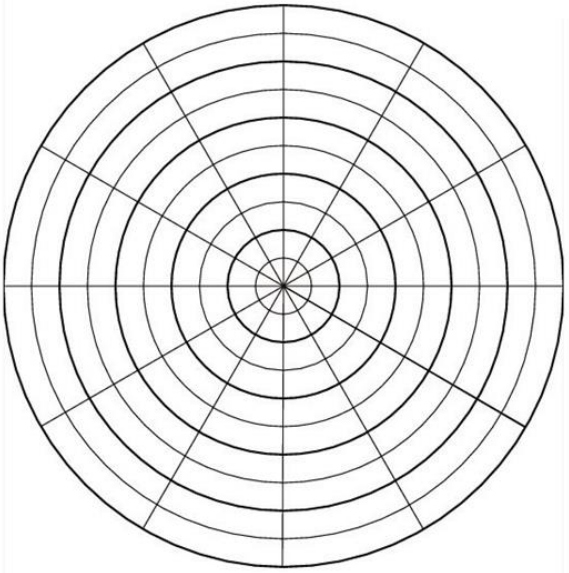
6. Graph both rectangular and polar graphs: $r = 4 + 3\cos\theta$





7. Graph both rectangular and polar graphs: $r = 4\sin 3q$





8. Match the equation to the **best** descriptor:

_____1.	$r = 4\cos 2q$	a.	line
_____2.	$r = 2 + 5\sin q$	b.	rose curve, even petals
_____3.	$r = 7$	c.	rose curve, odd petals
_____4.	$r = 3 + 3\cos q$	d.	circle
_____5.	$r = 4\sin 3q$	e.	limacon with dimple
_____6.	$q = \frac{p}{2}$	f.	limacon with loop
		g.	cardioid

9. Find polar coordinates for this rectangular point: (-3, 6)

10. Find polar coordinates for this rectangular point: (4, -7)

11. Find rectangular coordinates for this polar coordinate: [3, 120°]

12. Find rectangular coordinates for this polar coordinate: [-4, 30°]