

Trigonometry

Name: _____

Study Guide 23

Class: _____

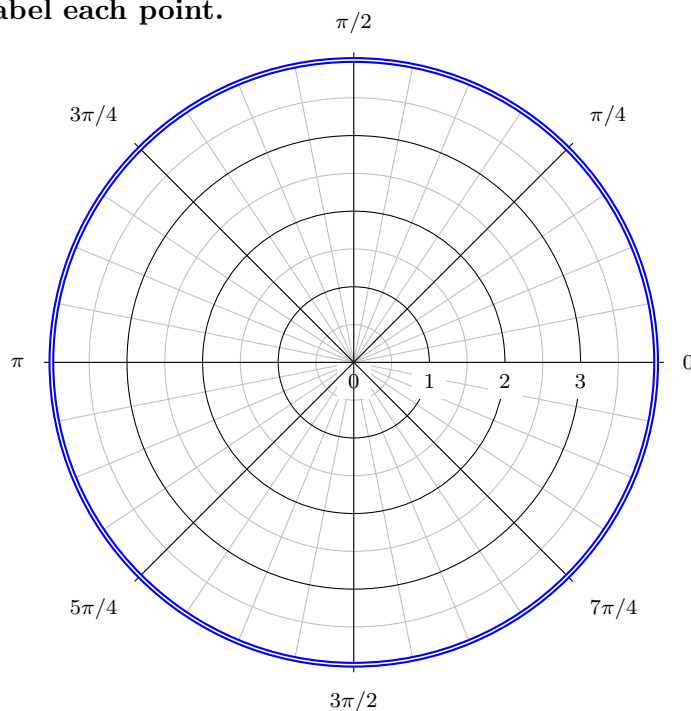
Due Date: _____

Score: _____

No Work \Leftrightarrow No Points

Use Pencil Only \Leftrightarrow Be Neat & Organized

1. (5 points) Plot the polar points $(3, 90^\circ)$, $(-3, 270^\circ)$, $(-3, -90^\circ)$, $(3, -270^\circ)$, $(3, 450^\circ)$, $(3, -450^\circ)$ below. Clearly label each point.



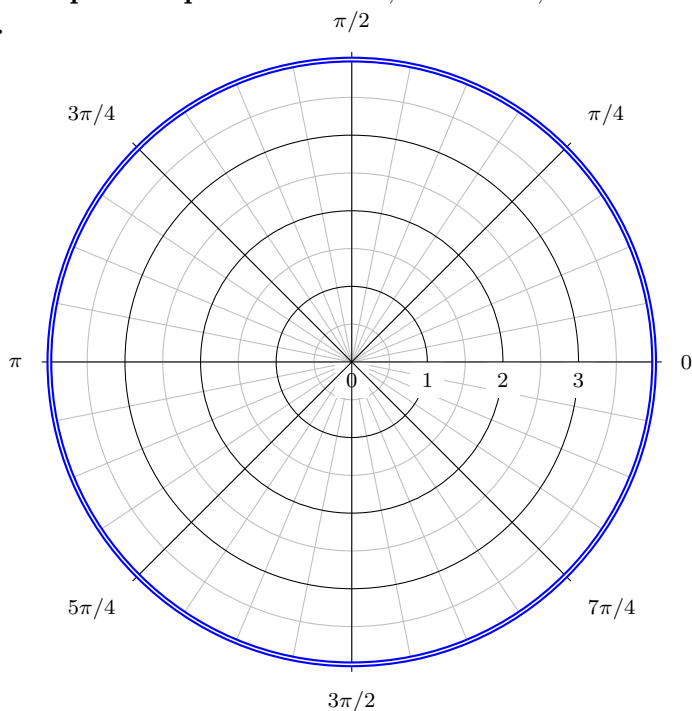
2. (3 points) Convert the polar point $(-4\sqrt{2}, -45^\circ)$ to a rectangular coordinate point.

2. _____

3. (3 points) Convert the polar equation $r = 4 \cos \theta - 6 \sin \theta$ to a rectangular equation.

3. _____

4. (6 points) Draw the polar equations $r = 3$, $r \sin \theta = 3$, $r = -3 \sec \theta$ below. Clearly label each graph.



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5. (3 points) Convert the rectangular point $(-4, -4)$ to a polar coordinate point.

5. _____

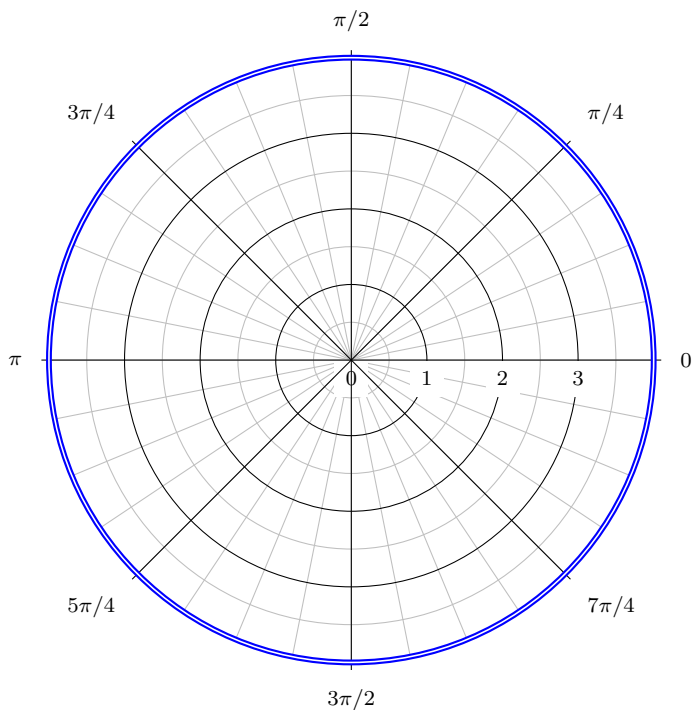
6. (4 points) Convert the rectangular equation $y = \sqrt{3}x$ to a polar equation.

6. _____

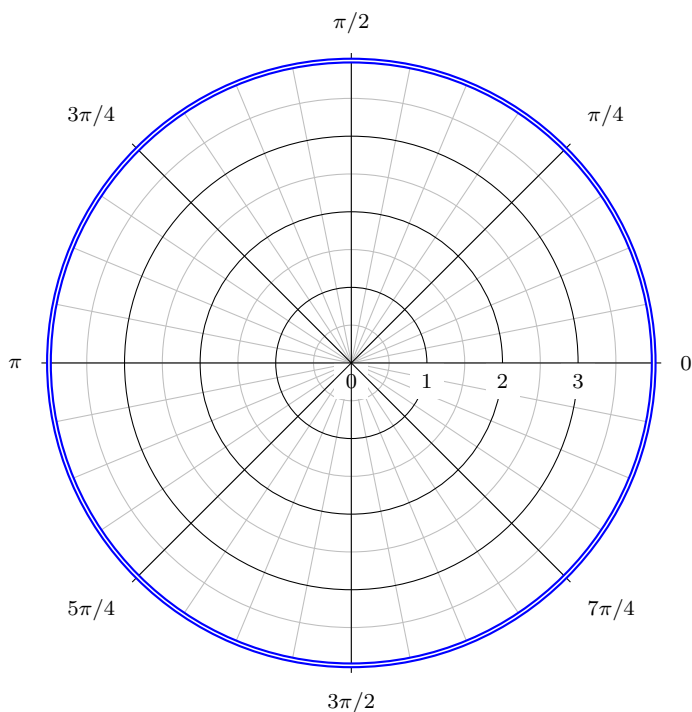
7. (4 points) Convert the polar equation $r = \frac{12}{4 \sin \theta - 3 \cos \theta}$ to a rectangular equation.

7. _____

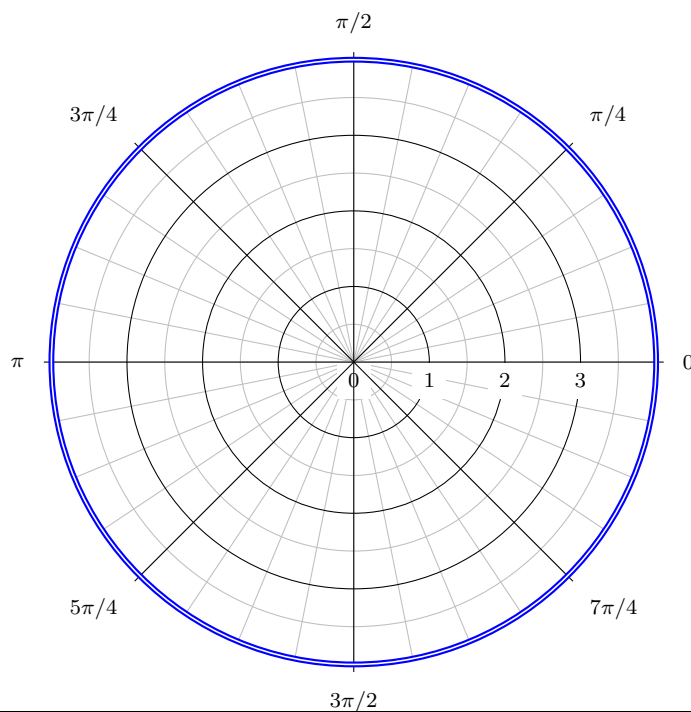
8. (6 points) Draw $r = 1 - 2\sin\theta$. Show your work in details and clearly label all important points.



9. (6 points) Draw $r = 1 + 2\cos\theta$. Show your work in details and clearly label each important point.



10. (5 points) Graph $Z_1 = 4(\cos 30^\circ + i \sin 30^\circ)$, $Z_2 = 3(\cos 180^\circ + i \sin 180^\circ)$, $Z_3 = 2(\cos 120^\circ + i \sin 120^\circ)$, and $Z_4 = 2(\cos 315^\circ + i \sin 315^\circ)$ below.



11. (5 points) Graph $Z_1 = 4 \operatorname{cis} 150^\circ$, $Z_2 = 3 \operatorname{cis} 270^\circ$, $Z_3 = 2 \operatorname{cis} 90^\circ$, and $Z_4 = \operatorname{cis} 330^\circ$ below.

