# Math 42 Additional Homework 4 Side 1

**Mon Jun 19, 2017 DUE @ start of final exam**

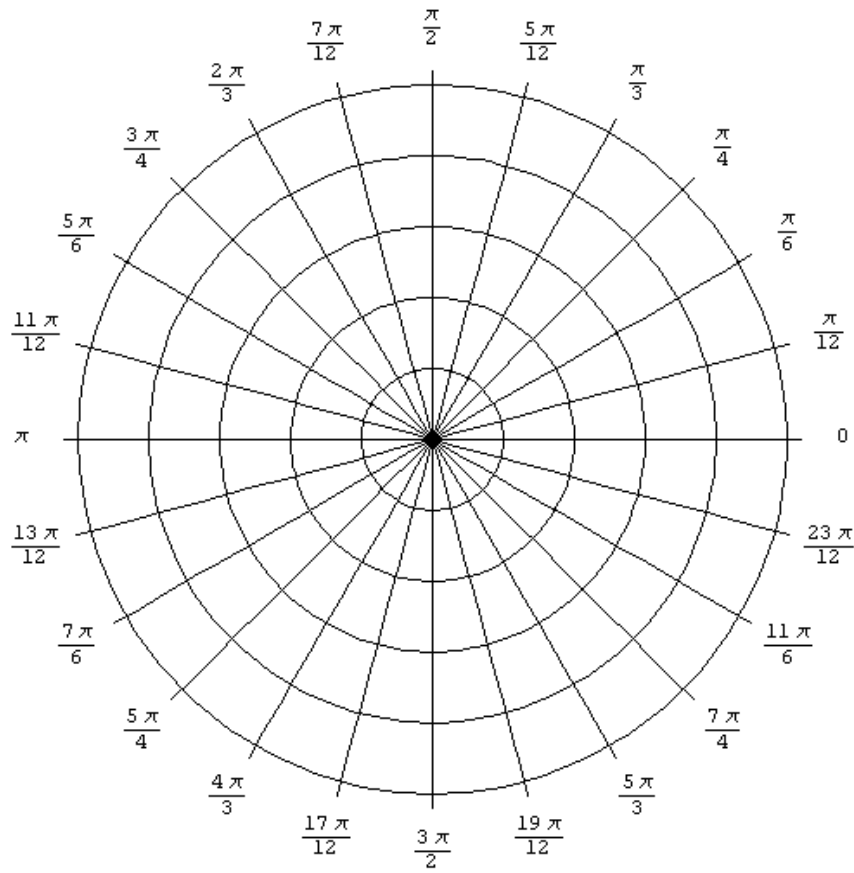NAME YOU ASKED TO BE CALLED IN CLASS:

_____

Sketch the polar graph $r = 2 - 3\cos\theta$ by first completing the table of $r-$values for the given list of $\theta-$values.

Give the exact value of $r$ in each case, as well as a decimal approximation to 1 decimal place. Use $\sqrt{2} \approx 1.4$ and $\sqrt{3} \approx 1.8$.

Then plot all 17 points, and connect with a **smooth curve** in increasing order of $\theta$.

| $\theta =$ | $r = 2 - 3\cos\theta$ (exact value, may involve radicals) | $r = 2 - 3\cos\theta$ (approximation to 1 decimal place) |
|---|---|---|
| $0$ | | |
| $\frac{\pi}{6}$ | | |
| $\frac{\pi}{4}$ | | |
| $\frac{\pi}{3}$ | | |
| $\frac{\pi}{2}$ | | |
| $\frac{2\pi}{3}$ | | |
| $\frac{3\pi}{4}$ | | |
| $\frac{5\pi}{6}$ | | |
| $\pi$ | | |
| $\frac{7\pi}{6}$ | | |
| $\frac{5\pi}{4}$ | | |
| $\frac{4\pi}{3}$ | | |
| $\frac{3\pi}{2}$ | | |
| $\frac{5\pi}{3}$ | | |
| $\frac{7\pi}{4}$ | | |
| $\frac{11\pi}{6}$ | | |
| $2\pi$ | | |

**NAME YOU ASKED TO BE CALLED IN CLASS:**

_____

Sketch the polar graph $r = 8\cos 3\theta$ by first completing the table of $r-$ values for the given list of $\theta-$ values.

Give the exact value of $r$ in each case, as well as a decimal approximation to 1 decimal place. Use $\sqrt{2} \approx 1.4$ and $\sqrt{3} \approx 1.8$.

Then plot all 17 points, and connect with a **smooth curve** in increasing order of $\theta$.

| $\theta =$ | $r = 8\cos 3\theta$ (exact value, may involve radicals) | $r = 8\cos 3\theta$ (approximation to 1 decimal place) |
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| $\frac{2\pi}{3}$ | | |
| $\frac{3\pi}{4}$ | | |
| $\frac{5\pi}{6}$ | | |
| $\pi$ | | |
| $\frac{7\pi}{6}$ | | |
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| $\frac{7\pi}{4}$ | | |
| $\frac{11\pi}{6}$ | | |
| $2\pi$ | | |