Math 32 Additional Homework 4

Fri Dec 4, 2020 DUE Thu Dec 10, 2020 @ 6pm in Canvas

SCORE: _____ / 10 POINTS

INSTRUCTIONS

[A] For this additional homework, you may consult your lecture notes, the Zoom recordings linked on the instructor's website, your textbook sections 4.1-4.8, 5.1-5.5, 6.1-6.4, 10.7-10.8 and the homework you did for those sections.

You may **not** use any other material located on the instructor's website nor covered in any other sections of your textbook.

You may **not** consult any person, nor any written/printed material, website, software, app or other electronic resource, nor any calculator (unless instructed), computer, phone or other electronic device.

[B] For all algebraic work, the general rule is that,
if you can't do the work in your head without writing something down, write it in your test.

However, **all** questions (unless otherwise specified) require you to show proper work/logic.
If you do **not** show that work written properly, you will **not** get the credit for the correct answer.

[C] **Handwrite** your solutions to the questions on clean 8½″ × 11″ paper (or equivalent).

[D] Your solutions to the questions must be in the same order as the questions in this homework.

(You may write the solutions to each question on separate pages, and sort them in order afterwards.)

[E] You do not need to copy the questions onto your paper.

Just show your organized and clearly written work and final answers, **in the layout in which they appear in the homework**.

[F] Writing which is illegible to the instructor will earn 0 points.

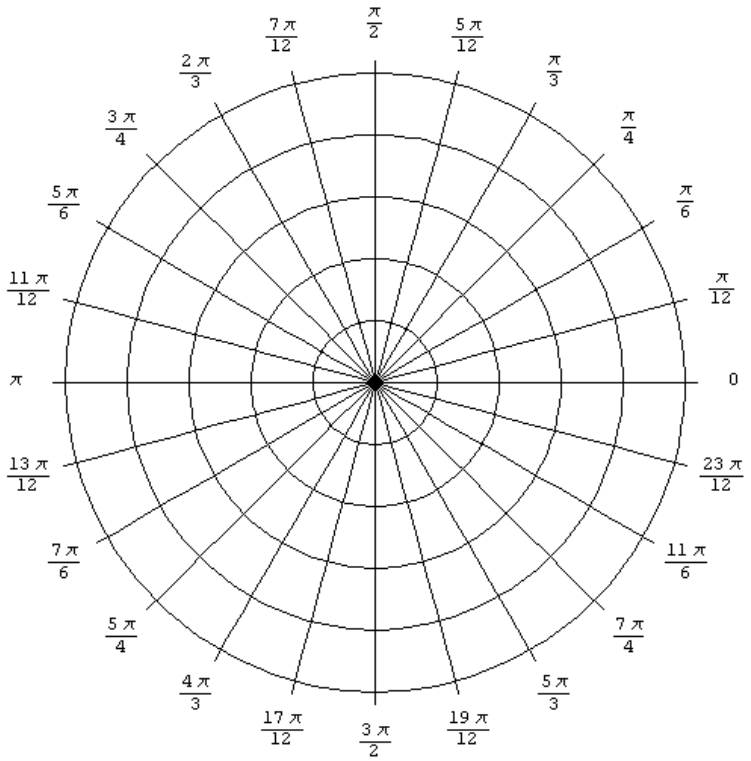
[G] All final answers must be completely simplified (including rationalizing the denominator) to receive full credit.
Final answers must **not** use decimals unless explicitly requested. Use fractions, radicals and π instead.

[H] Upload a **single** clear & legible PDF of your completed test to Canvas no later than Thu Dec 10 @ 6pm Pacific Time.

The solution will be posted to my website shortly after that time, and all work submitted after that will earn 0 points.

Sketch the polar graph $r = 3 + 2\sin\theta$ 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 θ.

$\theta =$	$r = 3 + 2\sin\theta$ **(exact value, may involve radicals)**	$r = 3 + 2\sin\theta$ (rounded to 1 decimal place)	(r, θ)
0			
$\frac{\pi}{6}$			
$\frac{\pi}{4}$			
$\frac{\pi}{3}$			
$\frac{\pi}{2}$			
$\frac{2\pi}{3}$			
$\frac{3\pi}{4}$			
$\frac{5\pi}{6}$			
π			
$\frac{7\pi}{6}$			
$\frac{5\pi}{4}$			
$\frac{4\pi}{3}$			
$\frac{3\pi}{2}$			
$\frac{5\pi}{3}$			
$\frac{7\pi}{4}$			
$\frac{11\pi}{6}$			
2π			



Sketch the polar graph $r = 1 - 2\cos 2\theta$ 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 θ.

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