Math 32 Quiz 5
Fri Dec 4, 2020 DUE Thu Dec 10, 2020 @ 6pm in Canvas

SCORE: _____ / 40 POINTS

INSTRUCTIONS

[A]   For this test, 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 test.

   (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.

[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 allowed. 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.

[1]   Legibly write the text from the box below (do **not** write in cursive), and sign your name directly below your writing.
If you skip this step or your writing is illegible to me, your quiz will not be counted for credit.

"I am a principled and honorable person who can be trusted.
I pledge to uphold the De Anza College Student Code of Conduct.

By signing below, I confirm that the work shown on this test is strictly my own.
Other than the resources listed in Instruction [A] of this test,
I did not consult any person, nor any printed/written material, app, software, website or other electronic resource,
nor any computer, phone, calculator or other electronic device."

NOTE: The De Anza College Student Code of Conduct can be found at
https://go.boarddocs.com/ca/fhda/Board.nsf/goto?open&id=9U2UC77B2DA5

For all questions below, show proper work/logic for your answers
Correct answers without proper work/logic will earn 0 credit

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[2]   **[8 POINTS]**

Fill in the blanks. **All parts of this question refer to the graph on the right.**

[a]   Point _____ has polar co-ordinates $\left(4, \frac{4\pi}{3}\right)$.

[b]   Point _____ has polar co-ordinates $\left(-4, -\frac{7\pi}{6}\right)$.

[c]   Point D has polar co-ordinates $\left(4, \rule{1cm}{0.4pt}\right)$. (Your answer must be **negative**.)

[d]   Point B has polar co-ordinates $\left(-4, \rule{1cm}{0.4pt}\right)$. (Your answer must be **positive**.)
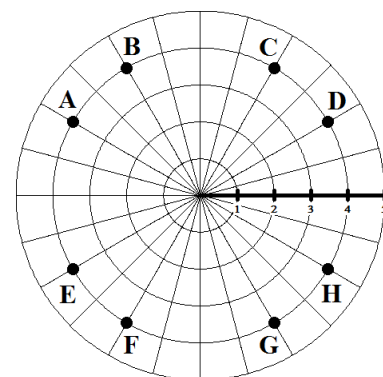
[3]   **[8 POINTS]**

Fill in the blanks.

[a]   The polar co-ordinates $\left(-7, -\frac{2\pi}{9}\right)$ refer to the same point as the polar co-ordinates $\left(7, \rule{1cm}{0.4pt}\right)$ and $\left(-7, \rule{1cm}{0.4pt}\right)$.
Your answers must be **positive**.

[b]   The polar co-ordinates $\left(7, \frac{4\pi}{5}\right)$ refer to the same point as the polar co-ordinates $\left(7, \rule{1cm}{0.4pt}\right)$ and $\left(-7, \rule{1cm}{0.4pt}\right)$.
Your answers must be **negative**.

[4]   **[24 POINTS]**

[a]   Convert $(r, \theta) = \left(-6, -\frac{9\pi}{4}\right)$ to rectangular.
NOTE: As with all questions on this test, you may **not** use a calculator.

[b]   Convert $(x, y) = (-3\sqrt{3}, 9)$ to polar.
NOTE: As with all questions on this test, you may **not** use a calculator.

[c]   Convert the polar equation $r = \cos 3\theta$ to rectangular.

[d]   Convert the rectangular equation $(x - 2)^2 + (y + 1)^2 = 5$ to polar.