Math 130 - Quiz 1

August 21, 2019

Name _____

Score _____

Show all work to receive full credit. Supply explanations when necessary. You must work individually on this quiz. The quiz is due August 26.

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1. (5 points) The angle θ is in standard position and measures $-75°$.

   (a) Roughly sketch the angle θ.

   (b) Starting with θ, determine the degree measures of two coterminal angles.

   (c) Convert your answers above to radian measure. Write in terms of π.

2. (2 points) An angle is obtuse if its degree measure is strictly between $90°$ and $180°$. Write these boundary angles in radians.

3. (2 points) A large circular track has a $1200\,\mathrm{m}$ radius. Find the distance traveled by a person who sprints for $3/4$ of the track.

4. (2 points) A Blu-ray disc is about $12\,\mathrm{cm}$ in diameter. In a Blu-ray player, it will rotate at 10,000 revolutions per minute.

   (a) Find the angular speed of the disc.

   (b) Find the linear speed of a point on the edge of the disc.

5. (4 points) Roughly sketch a unit circle on a rectangular coordinate system and mark the approximate point on the circle that makes an angle of $7\pi/3$ radians with the positive x-axis. Then find the coordinates of that point and determine the sine and cosine of the angle.