EXAM 1 - MATH 131
YOUR NAME:_____

Read each problem **very carefully** before starting to solve it. Each problem is worth 10 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

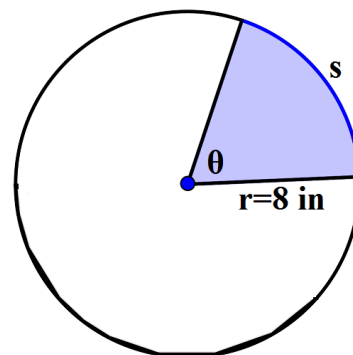1. (a) Convert $-\dfrac{17\pi}{3}$ rad into degrees.

   (b) Convert $780°$ into radians.

   (c) Find an angle θ, with $0 \leq \theta < 2\pi$, that is coterminal with the angle $\dfrac{50\pi}{3}$ rad.
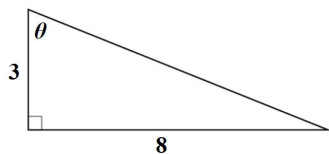
   (d) Find the reference angle of $-840°$ in degrees.

2. The area of the circular sector shown in the figure is 8π square inches.

   (a) Find the size of the angle θ.

    (b) Find the length of the arc s subtended by the angle θ.

3.   (a) Compute the sine, cosine, tangent and cosecant values for the angle θ shown in the figure.

    (b) An angle θ is drawn on the unit circle and its terminal side intersects the unit circle at the point $\left(-\dfrac{2}{7}, y\right)$ located in Quadrant II. Find the sine, cosine, cotangent and secant of θ.

4. Find the lengths of the sides a and b shown in the following figure.
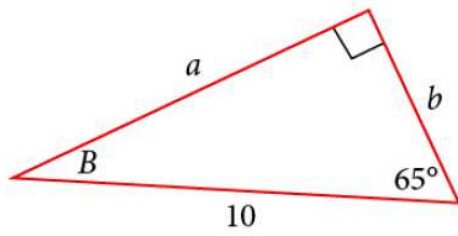
5. The figure shows a graph based on the cosine function. Show clearly all the steps used to identify A, B, C and D and then write an equation for the function corresponding to the graph.