Name:_____ **Handout October 18**

1. Draw the terminal side of the given angle, where the initial angle is provided.

   (a) $\theta = 120°$

   (b) $\theta = 2\pi/3$ rad

   (c) $\theta = 240°$

   (d) $\theta = -9\pi/4$ rad

2. Convert the following radians to degrees.

   (a) $-4/3\pi$ rad

   (b) $15/2\pi$ rad

   (c) $8/3\pi$ rad

   (d) 15 rad

   (e) -200 rad

   (f) 20 rad

3. Convert the following degrees to radians.

   (a) $-30°$

   (b) $150°$

   (c) $500°$

   (d) $15\pi°$

   (e) $15/\pi°$

   (f) $e°$

4. Which of the following angles, when drawn in standard position, are coterminal to $\pi/4$ rad? (Circle them)

   $-3\pi/4$ rad $\quad 5\pi/4$ rad $\quad 5\pi/8$ rad $\quad -11\pi/4$ rad

5. Which of the following angles, when drawn in standard position, are coterminal to $20°$? (Circle them)

   $340°$ $\quad 380°$ $\quad -20°$ $\quad -340°$ $\quad -380°$

6. What angle is complementary to the given angle? Supplementary?

   (a) $\pi/4$ rad

   (b) $\pi/3$ rad

   (c) $20°$

   (d) $33°$

   (e) 1 rad

   (f) $10\pi°$

7. A circle has radius 4. Answer the following questions, and draw a picture

   (a) What is the circumference of the circle?

   (b) What is the arc-length of a segment measuring $50°$?

   (c) What is the arc-length of a segment measuring $3\pi/10$ rad?

   (d) What is the arc-length of a segment measuring $15\pi/4$ rad?

8. A circle has radius 3.

   (a) What is the area of the circle?

   (b) What is the area of a sector measuring $10°$

   (c) What is the area of a sector measuring $2\pi/3$ rad?

   (d) What is the area of a sector measuring $18\pi/5$ rad?

9. You went for a 100m bike ride. Your bike's wheel's radius is 0.4m.

   (a) What is the circumference of your bike's tire? What are the units?

   (b) How many times did your bike's tire rotate on your bike ride?

   (c) What quantity of rotation did your bike's wheel go through in radians? In degrees?