Radian Measure Worksheet

1) For each problem, locate the point on the unit circle, convert it to *degree measure*, and then evaluate it.
   a) $cos(\pi/6)$ e) $sin(5\pi/6)$
   b) $sin(\pi/2)$ f) $tan(3\pi/4)$
   c) $cos(\pi/2)$ g) $sec(7\pi/6)$
   d) $tan(\pi/3)$ h) $csc(5\pi/3)$

2) For each problem, locate the point on the unit circle, convert it to *radian measure*, and then evaluate it.
   a) $cos(45°)$ d) $tan(135°)$
   b) $sin(120°)$ e) $csc(270°)$
   c) $cos(0°)$ f) $cot(240°)$

3) Let D represent the degree measure of a certain angle, and R represent the equivalent radian measure. For any angle, what is D:R?

4) Use the above ratio to convert radians to degrees.
   a) $\pi/4$ d) 4π
   b) $11\pi/6$ e) $3\pi/2$
   c) $4\pi/5$ f) 2

5) Use the above ratio to convert degrees to radians.
   a) 90° c) 216°
   b) 150° d) 3600°

6) Convert to degrees:
   a) $\pi/3$ d) $11\pi/8$
   b) $7\pi/4$ e) 1
   c) $2\pi/3$ f) 3.7

7) Convert to radians:
   a) 90° c) 180°
   b) 330° d) 220°

8) Evaluate
   a) $\cos(2\pi/3)$ d) $\sec(2\pi/3)$
   b) $\sin(7\pi/4)$ e) $\csc(7\pi/4)$
   c) $\tan(5\pi/6)$ f) $\cot(5\pi/6)$

9) Graph below each trigonometric function, for all x such that $-4\pi \le x \le 4\pi$. (Put a and b on the same graph.)
   a) $f(x) = \cos(x)$
   b) $f(x) = \sin(x)$
   c) $f(x) = \tan(x)$