Precalculus
Homework
Angles

1. Convert from degrees to radians.

   (a) $15°$.
   answer: $\frac{\pi}{12} \approx 0.261799388$

   (b) $30°$.
   answer: $\frac{\pi}{6} \approx 0.523598776$

   (c) $36°$.
   answer: $\frac{\pi}{5} \approx 0.628318531$

   (d) $45°$.
   answer: $\frac{\pi}{4} \approx 0.785398163$

   (e) $60°$.
   answer: $\frac{\pi}{3} \approx 1.047197551$

   (f) $75°$.
   answer: $\frac{5\pi}{12} \approx 1.308997$

   (g) $90°$.
   answer: $\frac{\pi}{2}$

   (h) $120°$.
   answer: $\frac{2\pi}{3}$

   (i) $135°$.
   answer: $\frac{3\pi}{4}$

   (j) $150°$.
   answer: $\frac{5\pi}{6}$

   (k) $180°$.
   answer: π

   (l) $225°$.
   answer: $\frac{5\pi}{4}$

   (m) $270°$.
   answer: $\frac{3\pi}{2}$

   (n) $305°$.
   answer: $\frac{61\pi}{36} \approx 5.323254$

   (o) $360°$.
   answer: 2π

   (p) $405°$.
   answer: $\frac{9\pi}{4}$

   (q) $1200°$.
   answer: $\frac{20\pi}{3}$

   (r) $-900°$.
   answer: -5π

   (s) $-2014°$.
   answer: $-\frac{1007}{90}\pi \approx -35.150931$

2. Convert from radians to degrees. The answer key has not been proofread, use with caution.

   (a) 4π.
   answer: $720°$

   (b) $-\frac{7}{6}\pi$.
   answer: $-210°$

   (c) $\frac{7}{12}\pi$.
   answer: $105°$

   (d) $\frac{4}{3}\pi$.
   answer: $240°$

   (e) $-\frac{3}{8}\pi$.
   answer: $-67.5°$

   (f) 2014π.
   answer: $362520°$

   (g) 5.
   answer: $\left(\frac{900}{\pi}\right)° \approx 286°$

   (h) -2014.
   answer: $-362520°$

3. Find the indicated circle arc-length. The answer key has not been proofread, use with caution.

   (a) Circle of radius 3, arc of measure $36°$.
   answer: $\frac{3\pi}{5} \approx 1.884956$

   (b) Circle of radius $\frac{1}{2}$, arc of measure $100°$.
   answer: $\frac{5\pi}{18} \approx 0.872665$

   (c) Circle of radius 1, arc of measure 3 (radians).
   answer: 3

   (d) Circle of radius 3, arc of measure $300°$.
   answer: $5\pi \approx 15.707963$