

Name: _____

Date: _____

Page 1

QUICK REFERENCE **$180^\circ = \pi$ radians****Degrees $\rightarrow$ Radians** $\times \pi/180$ **Radians $\rightarrow$ Degrees** $\times 180/\pi$ **LEVEL 1 · CONVERT BETWEEN UNITS****1** DEGREES TO RADIANSConvert 60° to radians. **60°**

2 RADIANS TO DEGREESConvert $5\pi/6$ to degrees. **$5\pi/6$**

3 DEGREES TO RADIANSConvert 225° to radians. **225°**

LEVEL 2 · COMMON ANGLE EQUIVALENTS**4** COMMON ANGLESWhat radian measure is equivalent to 135° ? **$135^\circ = ?$**

5 COMMON ANGLESWhat degree measure is equivalent to $7\pi/4$? **$7\pi/4 = ?$**

Name: _____

Date: _____

Page 2

LEVEL 2 · COMMON ANGLE EQUIVALENTS**6** MATCH THE EQUIVALENTWhich radian measure is equivalent to 300° ?☐ $3\pi/2$ ☐ $5\pi/3$ ☐ $7\pi/4$ ☐ $11\pi/6$ **LEVEL 3 · COTERMINAL ANGLES & MIXED REVIEW****7** COTERMINAL DEGREESFind one positive coterminal angle for -75° . -75°

8 COTERMINAL RADIANSFind one positive coterminal angle for $-5\pi/6$. $-5\pi/6$

9 MIXED REVIEWConvert 420° to radians, then find a coterminal angle in $[0, 2\pi)$. 420°

CHECK BEFORE YOU FINISHUse $\pi/180$ for degrees $\rightarrow$ radians and $180/\pi$ for radians $\rightarrow$ degrees.For coterminal angles, add or subtract 360° or 2π . Simplify completely.

Use the work shown to check your conversion factor, simplification, and coterminal-angle reasoning.

1 Degrees to radians

$$60^\circ \times \pi/180^\circ = 60\pi/180 = \pi/3$$

Answer: $\pi/3$

2 Radians to degrees

$$(5\pi/6) \times 180^\circ/\pi = 5(180^\circ)/6 = 150^\circ$$

Answer: 150°

3 Degrees to radians

$$225^\circ \times \pi/180^\circ = 225\pi/180 = 5\pi/4$$

Answer: $5\pi/4$

4 Common angle

$$135^\circ \times \pi/180^\circ = 135\pi/180 = 3\pi/4$$

Answer: $3\pi/4$

5 Common angle

$$(7\pi/4) \times 180^\circ/\pi = 7(180^\circ)/4 = 315^\circ$$

Answer: 315°

6 Match the equivalent

$$300^\circ \times \pi/180^\circ = 300\pi/180 = 5\pi/3$$

Answer: $5\pi/3$

7 Coterminal degrees

$$-75^\circ + 360^\circ = 285^\circ$$

Answer: 285°

8 Coterminal radians

$$-5\pi/6 + 2\pi = -5\pi/6 + 12\pi/6 = 7\pi/6$$

Answer: $7\pi/6$

9 Mixed review

$$420^\circ \times \pi/180^\circ = 7\pi/3; 7\pi/3 - 2\pi = \pi/3$$

Answer: $7\pi/3$; coterminal angle $\pi/3$