

WS-1: Angles and Angle Measures

Part 1 – Give the reference angle for each.

1. 150° 30°

2. 225° 45°

3. 300° 60°

4. 240° 60°

5. 140° 40°

6. -20° 20°

7. 95° 85°

8. 220° 40°

9. 260° 80°

10. 278° 82°

11. 351° 9°

12. 500° 40°

13. 390° 30°

14. 700° 20°

15. -150° 30°

Part 2 – Convert to the other unit of measure (degree or radian). Show your work!

1. 60° $\frac{\pi}{3}$

2. 80° $\frac{4\pi}{9}$

3. 405° $\frac{9\pi}{4}$

4. $\frac{5\pi}{6}$ 150°

5. $\frac{7\pi}{3}$ 420°

6. 2 $\frac{360^\circ}{\pi}$

7. -45° $-\frac{\pi}{4}$

8. $-\frac{\pi}{9}$ -20°

9. 100° $\frac{5\pi}{9}$

10. -25° $-\frac{5\pi}{36}$

11. $\frac{3\pi}{5}$ 108°

12. $-\frac{2\pi}{5}$ -72°

13. 600° $\frac{10\pi}{3}$

14. $\frac{8\pi}{9}$ 160°

15. 3 $\frac{540^\circ}{\pi}$

Part 3 – Indicate which quadrant each angle is in.

1. 397° I

2. 275° IV

3. $\frac{\pi}{3}$ I

4. -32° IV

5. $\frac{5\pi}{9}$ II

6. $-\frac{12\pi}{5}$ IV

7. 945° III

8. $\frac{11\pi}{3}$ IV

9. -100° III

10. 400° I

11. $\frac{7\pi}{9}$ II

12. $\frac{2\pi}{7}$ I

13. $\frac{19\pi}{10}$ IV

14. 840° II

15. $-\frac{3\pi}{5}$ III