Lesson 10.4

Practice Level C

1. 74° **2.** 66° **3.** 126° **4.** 62° **5.** 132° **6.** 42°

7. 32° **8.** 43° **9.** 120° **10.** 90° **11.** 42.5°

12. 48.5° **13.** 42.5° **14.** 47.5° **15.** 48.5°

16. 95° **17.** 180° **18.** yes **19.** no **20.** no

21. $x = 7$ **22.** $x = 102$ **23.** $x = 23.25$ **24.** $x = 8$

25. $w = 65$, $x = 66$, $y = 115$, $z = 114$

26. $x = 91.5$, $y = 35$, $z = 88.5$

27. *Sample answer:* Draw $\overline{DG}$. Because $\overline{DF}$ is a diameter, $\angle DGF$ is a right angle inscribed in $\odot C$. Then $\overline{DG} \perp \overline{FG}$ and $\angle DGF \cong \angle DGE$, because perpendicular lines intersect to form four right angles. It is given that $\overline{FG} \cong \overline{GE}$ and by the Reflexive Property, $\overline{DG} \cong \overline{DG}$. Then by SAS, $\triangle DGF \cong \triangle DGE$, and corresponding parts of $\cong$ triangles are $\cong$, so $\overline{DF} \cong \overline{DE}$. Therefore, $\triangle DEF$ is isosceles by definition.

28. *Sample answer:* Draw $\overline{PR}$, $\overline{PS}$, and $\overline{PT}$. $\overline{PR}$ is a diameter of $\odot Q$, so $\angle PSR$ is a right angle inscribed in $\odot Q$. Then $\overline{PS} \perp \overline{RT}$, and $\triangle PSR$ and $\triangle PST$ are right triangles. $\overline{PR} \cong \overline{PT}$ because they are radii of the same circle, and $\overline{PS} \cong \overline{PS}$ by the Reflexive Property. So, $\triangle PSR \cong \triangle PST$ by HL. Therefore, $\overline{RS} \cong \overline{RT}$ because they are corresponding parts of $\cong \triangle$s.