

## Answer Key

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### Lesson 10.4

#### Practice Level C

1.  $74^\circ$  2.  $66^\circ$  3.  $126^\circ$  4.  $62^\circ$  5.  $132^\circ$  6.  $42^\circ$   
7.  $32^\circ$  8.  $43^\circ$  9.  $120^\circ$  10.  $90^\circ$  11.  $42.5^\circ$   
12.  $48.5^\circ$  13.  $42.5^\circ$  14.  $47.5^\circ$  15.  $48.5^\circ$   
16.  $95^\circ$  17.  $180^\circ$  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.