

Answers for Lesson 2-5, pp. 112–115 Exercises

1. 20
2. $x = 25, y = 105$
3. 30
4. 60, 60
5. 75, 105
6. 120, 120
7.
 - a. 90
 - b. 90
 - c. Subst.
 - d. $m\angle 3$
8. Answers may vary. Sample: A thm. is proven and a post. is assumed to be true.
9. Answers may vary. Sample: scissors
10. If $m\angle 1 + m\angle 2 = 180$, and $m\angle 2 + m\angle 3 = 180$, then $m\angle 1 + m\angle 2 = m\angle 2 + m\angle 3$ by subst. Subtr. $m\angle 2$ from each side $m\angle 1 = m\angle 3$ or $\angle 1 \cong \angle 3$.
11. The two acute \sphericalangle s have measure 72. The two obtuse \sphericalangle s have measure 108.
12. 15; 25, 25
13. $x = 14, y = 15; 50, 50, 130$
14.
 - a. rt. \sphericalangle
 - b. $m\angle Y$
15. C
16. $\angle DOB \cong \angle AOC$ and $\angle DOA \cong \angle BOC$ since they are vert. \sphericalangle s.
17. $\angle EIG \cong \angle FIH$ since all rt. \sphericalangle s are \cong ; $\angle EIF \cong \angle HIG$ since they are compl. of the same \sphericalangle .
18. $\angle KPJ \cong \angle MPJ$ since they are marked \cong ; $\angle KPL \cong \angle MPL$ since they are suppl. of $\cong \sphericalangle$ s.
19. Answers may vary. Sample: $(-5, -1)$

Answers for Lesson 2-5, pp. 112–115 Exercises (cont.)

20. a. Answers may vary. B can be any point on the positive y -axis. Sample: $(0, 5)$
b. Answers may vary. Sample: $(3, -1)$
21. a. V
b. 180
c. Division
d. right
22. Suppl. of $\cong \sphericalangle$ s are \cong .
23. $m\angle A = 60, m\angle B = 30$ 24. $m\angle A = 30, m\angle B = 60$
25. $m\angle A = 120, m\angle B = 60$ 26. $m\angle A = 90, m\angle B = 90$
27. By the def. of suppl. \sphericalangle s, $m\angle 1 + m\angle 2 = 180$ and $m\angle 3 + m\angle 4 = 180$. By the Subst. Prop. $m\angle 1 + m\angle 2 = m\angle 3 + m\angle 4$. It is given that $\angle 2 \cong \angle 4$, so $m\angle 2 = m\angle 4$. Then by the Subtr. Prop. of $=$, $m\angle 1 = m\angle 3$, or $\angle 1 \cong \angle 3$.
28. By the def. of compl. \sphericalangle s, $m\angle 1 + m\angle 2 = 90$ and $m\angle 3 + m\angle 4 = 90$. By the Subst. Prop. of $=$, $m\angle 1 + m\angle 2 = m\angle 3 + m\angle 4$. It is given that $\angle 2 \cong \angle 4$, so $m\angle 2 = m\angle 4$. Then by the Subtr. Prop. of $=$, $m\angle 1 = m\angle 3$ or $\angle 1 \cong \angle 3$.
29. a–b. It is the bisector of both angles.
c. Sample: perpendicular; bisectors of two adjacent supplementary angles form two adjacent angles whose measures add to $\frac{1}{2}(180)$, or 90.
30. $x = 30, y = 90; 60, 120, 60$
31. $x = 35, y = 70; 70, 110, 70$
32. $x = 50, y = 20; 80, 100, 80$