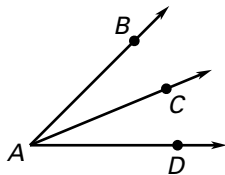


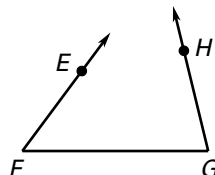
LESSON 1.5 Practice A
For use with pages 35–41

Tell whether the indicated angles are adjacent.

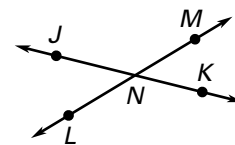
1. $\angle BAC$ and $\angle CAD$



2. $\angle EFG$ and $\angle HGF$

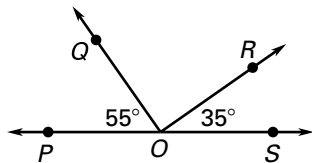


3. $\angle JNM$ and $\angle LNK$

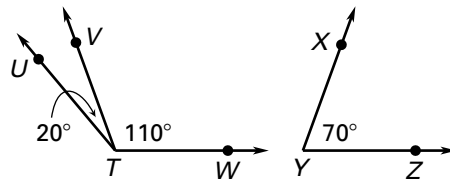


Name a pair of complementary angles and a pair of supplementary angles.

4.



5.



$\angle 1$ and $\angle 2$ are complementary angles. Given the measure of $\angle 1$, find $m\angle 2$.

6. $m\angle 1 = 52^\circ$

7. $m\angle 1 = 76^\circ$

8. $m\angle 1 = 19^\circ$

9. $m\angle 1 = 63^\circ$

$\angle 1$ and $\angle 2$ are supplementary angles. Given the measure of $\angle 1$, find $m\angle 2$.

10. $m\angle 1 = 147^\circ$

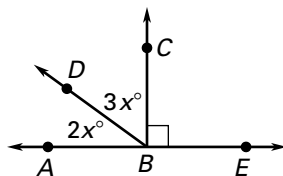
11. $m\angle 1 = 94^\circ$

12. $m\angle 1 = 38^\circ$

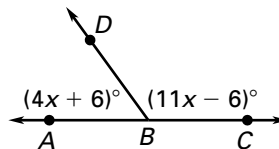
13. $m\angle 1 = 121^\circ$

Find $m\angle ABD$ and $m\angle DBC$.

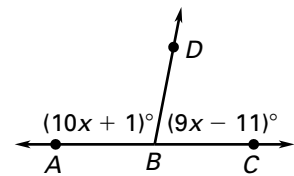
14.



15.



16.



Use the diagram below. Tell whether the angles are vertical angles, a linear pair, or neither.

17. $\angle 1$ and $\angle 2$

18. $\angle 1$ and $\angle 3$

19. $\angle 2$ and $\angle 4$

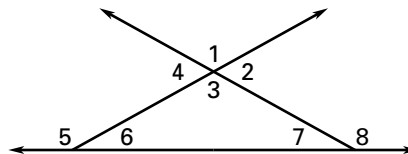
20. $\angle 3$ and $\angle 4$

21. $\angle 5$ and $\angle 6$

22. $\angle 5$ and $\angle 7$

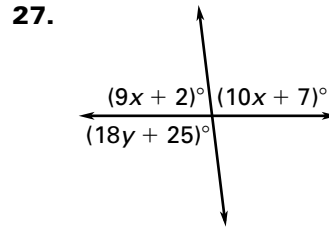
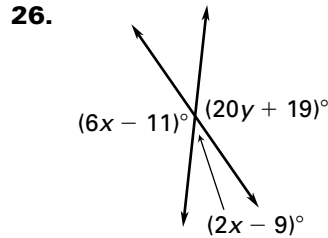
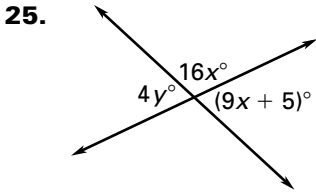
23. $\angle 6$ and $\angle 8$

24. $\angle 7$ and $\angle 8$



LESSON 1.5 **Practice A** *continued*
For use with pages 35–41

Find the values of x and y . Check that your answer is reasonable.



$\angle A$ and $\angle B$ are complementary. Find $m\angle A$ and $m\angle B$.

28. $m\angle A = x^\circ$
 $m\angle B = (x - 30)^\circ$

29. $m\angle A = (5x + 4)^\circ$
 $m\angle B = (7x - 10)^\circ$

30. $m\angle A = (4x - 2)^\circ$
 $m\angle B = (11x + 17)^\circ$

31. $m\angle A = (6x - 9)^\circ$
 $m\angle B = (8x + 1)^\circ$

$\angle A$ and $\angle B$ are supplementary. Find $m\angle A$ and $m\angle B$.

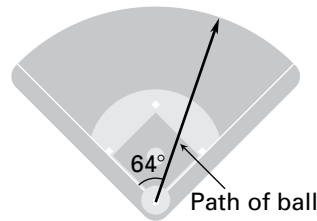
32. $m\angle A = x^\circ$
 $m\angle B = 3x^\circ$

33. $m\angle A = (7x - 3)^\circ$
 $m\angle B = (x - 1)^\circ$

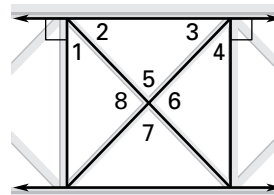
34. $m\angle A = (11x + 2)^\circ$
 $m\angle B = (8x + 7)^\circ$

35. $m\angle A = (13x + 10)^\circ$
 $m\angle B = (12x + 20)^\circ$

36. **Baseball** The foul lines of a baseball field intersect at home plate to form a right angle. You hit a baseball whose path forms an angle of 64° with the third base foul line (see figure at right). What is the angle between the first base foul line and the path of the baseball?

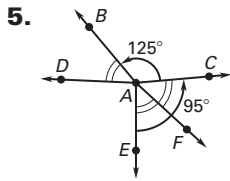


Stair Railing A stair railing is designed as shown in the figure. Use the angles identified in the figure to name two pairs of the indicated type of angle pair.



- 37. Complementary angles
- 38. Supplementary angles
- 39. Vertical angles
- 40. Linear pair
- 41. Adjacent angles

Lesson 1.4, continued



6. 47.5° 7. 47.5° 8. 172.5° 9. 92.5°
 10. 140° 11. 140°
 12. a. $\angle HOA \cong \angle AOB \cong \angle BOC \cong \angle COD \cong \angle DOE \cong \angle EOF \cong \angle FOG \cong \angle GOH$
 b. $\angle AOC, \angle BOD, \angle COE, \angle DOF, \angle EOG, \angle FOH, \angle GOA, \angle HOB$ c. $\angle GOB \cong \angle DOG \cong \angle COH \cong \angle COF \cong \angle AOD \cong \angle EOB \cong \angle HOE \cong \angle FOA$ d. *Sample answer:* $\angle GOB$ and $\angle COB$

Lesson 1.5

Practice Level A

1. yes 2. no 3. no 4. complementary: $\angle POQ$ and $\angle ROS$; supplementary: either $\angle POR$ and $\angle ROS$ or $\angle POQ$ and $\angle QOS$
 5. complementary: $\angle UTV$ and $\angle XYZ$; supplementary: $\angle VTW$ and $\angle XYZ$
 6. 38° 7. 14° 8. 71° 9. 27° 10. 33° 11. 86°
 12. 142° 13. 59°
 14. $m\angle ABD = 36^\circ, m\angle DBC = 54^\circ$
 15. $m\angle ABD = 54^\circ, m\angle DBC = 126^\circ$
 16. $m\angle ABD = 101^\circ, m\angle DBC = 79^\circ$
 17. linear pair 18. vertical angles
 19. vertical angles 20. linear pair
 21. linear pair 22. neither 23. neither
 24. linear pair 25. $x = 7, y = 17$
 26. $x = 25, y = 6$ 27. $x = 9, y = 4$
 28. $m\angle A = 60^\circ, m\angle B = 30^\circ$
 29. $m\angle A = 44^\circ, m\angle B = 46^\circ$
 30. $m\angle A = 18^\circ, m\angle B = 72^\circ$
 31. $m\angle A = 33^\circ, m\angle B = 57^\circ$
 32. $m\angle A = 45^\circ, m\angle B = 135^\circ$
 33. $m\angle A = 158^\circ, m\angle B = 22^\circ$
 34. $m\angle A = 101^\circ, m\angle B = 79^\circ$
 35. $m\angle A = 88^\circ, m\angle B = 92^\circ$ 36. 26°
 37. $\angle 1$ and $\angle 2, \angle 3$ and $\angle 4$
 38. *Sample answer:* $\angle 5$ and $\angle 6, \angle 7$ and $\angle 8$
 39. $\angle 5$ and $\angle 7, \angle 6$ and $\angle 8$

40. *Sample answer:* $\angle 5$ and $\angle 8, \angle 6$ and $\angle 7$
 41. *Sample answer:* $\angle 1$ and $\angle 2, \angle 5$ and $\angle 6$

Practice Level B

1. $10^\circ; 170^\circ$ 2. $57^\circ; 123^\circ$ 3. $18^\circ; 162^\circ$ 4. $83^\circ; 97^\circ$ 5. $40^\circ; 50^\circ$ 6. $38^\circ; 142^\circ$ 7. $85^\circ; 95^\circ$
 8. neither 9. neither 10. linear pair
 11. vertical angles 12. vertical angles
 13. $22.5^\circ; 67.5^\circ$ 14. $20^\circ; 160^\circ$ 15. $71^\circ; 109^\circ$
 16. $x = 10, y = 8.25$ 17. $x = 5, y = 50$
 18. $x = 13, y = 23$ 19. $x = 6, y = 24$
 20. $x = 3.25, y = 5.5$ 21. $x = 21, y = 35$
 22. never 23. always 24. sometimes
 25. $55^\circ; 35^\circ$ 26. $50^\circ; 40^\circ$ 27. $32.4^\circ; 57.6^\circ$
 28. $60^\circ; 30^\circ$ 29. $65^\circ; 115^\circ$ 30. $150^\circ; 30^\circ$
 31. $163^\circ; 17^\circ$ 32. $160^\circ; 20^\circ$
 33. *Sample answer:* $\angle AIB$ and $\angle AIH, \angle AJB$ and $\angle AJG$ 34. *Sample answer:* $\angle HBG$ and $\angle GBC, \angle BCF$ and $\angle FCE$ 35. *Sample answer:* $\angle AIB$ and $\angle HIJ, \angle BIJ$ and $\angle AIH$ 36. *Sample answer:* $\angle AIB$ and $\angle AIH, \angle AJB$ and $\angle AJG$
 37. *Sample answer:* $\angle AIB$ and $\angle AIH, \angle AJB$ and $\angle AJG$ 38. The angle of elevation is increasing. The closer the plane gets, the higher up you have to look.

Practice Level C

1. $m\angle 2 = 47^\circ, m\angle 3 = 133^\circ$ 2. $m\angle 2 = 62^\circ, m\angle 3 = 118^\circ$ 3. $m\angle 2 = 20.5^\circ, m\angle 3 = 159.5^\circ$
 4. $m\angle 2 = 72.5^\circ, m\angle 3 = 107.5^\circ$
 5. $m\angle ABC = 64^\circ, m\angle CBD = 26^\circ$
 6. $m\angle ABC = 97^\circ, m\angle CBD = 83^\circ$
 7. $m\angle ABC = 112.5^\circ, m\angle CBD = 67.5^\circ$
 8. linear pair 9. vertical angles
 10. neither 11. neither 12. vertical angles
 13. linear pair 14. neither 15. linear pair
 16. 11.25° and 78.75° 17. 11.25° and 168.75°
 18. 66.5° and 113.5° 19. $x = 5, y = 6$
 20. $x = 6, y = 11$ 21. $x = 7.5, y = 8.5$
 22. $x = 9.5, y = 3.5$ 23. $x = 4, y = 17$
 24. $x = 13.5, y = 3.5$ 25. Never; Vertical angles do not share a common side. 26. Sometimes; This is true except when both angles are right angles. 27. Always; An angle that has a complement must have a measure less than 90° , so there will always be another angle that