

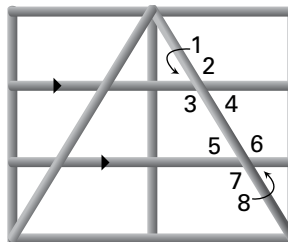
LESSON 3.2

Practice B

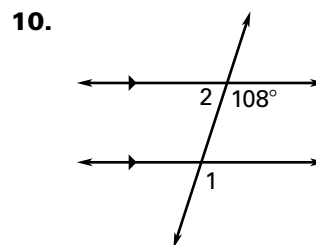
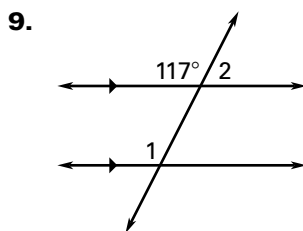
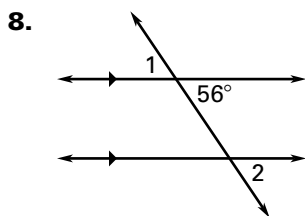
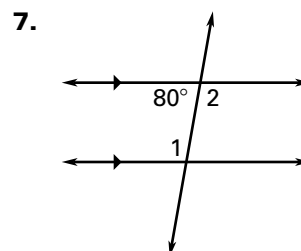
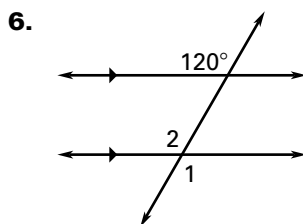
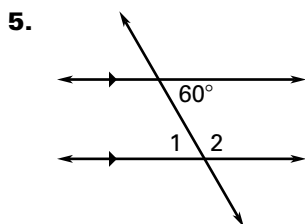
For use with pages 157–164

Find the angle measure. Tell which postulate or theorem you use.

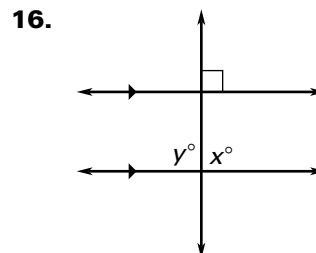
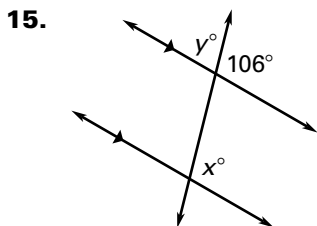
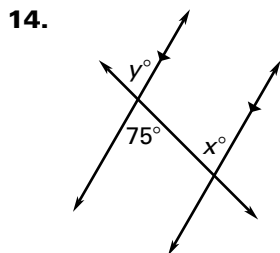
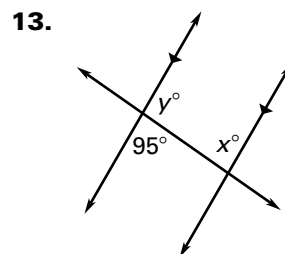
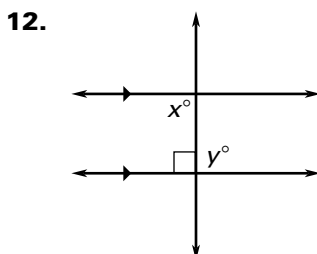
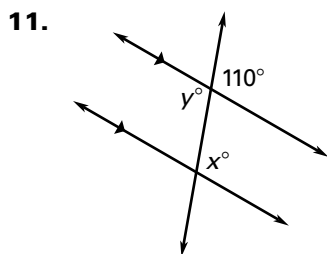
1. If $m\angle 1 = 50^\circ$, then $m\angle 5 = ?$.
2. If $m\angle 4 = 45^\circ$, then $m\angle 6 = ?$.
3. If $m\angle 2 = 130^\circ$, then $m\angle 7 = ?$.
4. If $m\angle 6 = 123^\circ$, then $m\angle 3 = ?$.



Find $m\angle 1$ and $m\angle 2$.



Find the values of x and y .



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LESSON 3.2

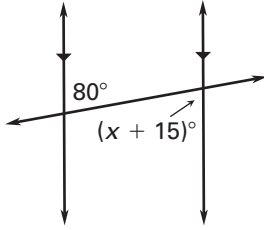
LESSON
3.2

Practice B *continued*

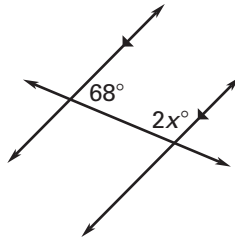
For use with pages 157–164

Find the value of x .

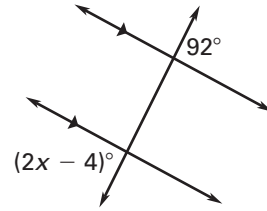
17.



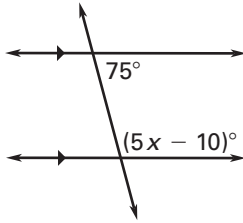
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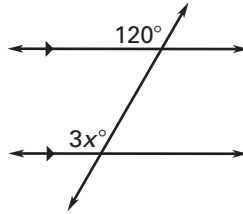
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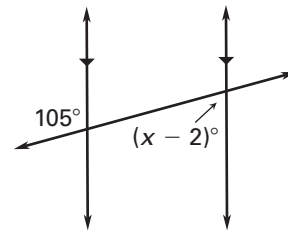
20.



21.



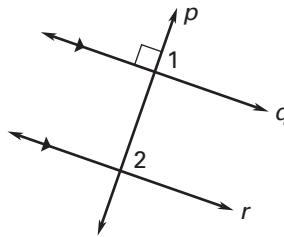
22.



In Exercises 23–31, complete the two-column proof.

GIVEN: $p \perp q$, $q \parallel r$

PROVE: $p \perp r$

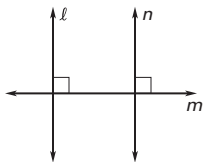


LESSON 3.2

Statements	Reasons
$p \perp q$	23. _____ ?
$\angle 1$ is a right angle.	24. _____ ?
$m\angle 1 = 90^\circ$	25. _____ ?
$q \parallel r$	26. _____ ?
$\angle 1 \cong \angle 2$	27. _____ ?
$m\angle 1 = m\angle 2$	28. _____ ?
$m\angle 2 = 90^\circ$	29. _____ ?
$\angle 2$ is a right angle.	30. _____ ?
$p \perp r$	31. _____ ?

Lesson 3.1, continued

3. l seems to be parallel to n . If two lines are perpendicular to the same line, then they are parallel to each other.



4. a. $\angle 5, \angle 11, \angle 17$ b. $\angle 5, \angle 9, \angle 17$
 c. $\angle 8, \angle 12, \angle 17$ d. $\angle 7, \angle 9, \angle 18$
 e. $\angle 2, \angle 10, \angle 14$ f. $\angle 4, \angle 10, \angle 16$
 g. $\angle 3, \angle 11, \angle 15$ h. $\angle 15$ 5. III; 3 6. L; 50
 7. VII; 7 8. XX; 20 9. MIII; 1003

Lesson 3.2

Practice Level A

- Corresponding Angles Postulate
- Consecutive Interior Angles Theorem
- Alternate Interior Angles Theorem
- Alternate Exterior Angles Theorem
- $120^\circ; 120^\circ$ 6. $120^\circ; 60^\circ$ 7. $135^\circ; 45^\circ$
- $140^\circ; 140^\circ$ 9. $105^\circ; 105^\circ$ 10. $110^\circ; 70^\circ$
- 80; 80 12. 90; 90 13. 60; 120 14. 65; 65
- 50; 130 16. 90; 90 17. 40 18. 40 19. 35
- 110 21. 15 22. 33 23. B 24. 135°
- 45° 26. 140° 27. 130°

Practice Level B

- 50° ; Corresponding Angles Postulate
- 135° ; Consecutive Interior Angles Theorem
- 130° ; Alternate Exterior Angles Theorem
- 123° ; Alternate Interior Angles Theorem
- $60^\circ; 120^\circ$ 6. $120^\circ; 120^\circ$ 7. $100^\circ; 100^\circ$
- $56^\circ; 56^\circ$ 9. $117^\circ; 63^\circ$ 10. $108^\circ; 72^\circ$
- 110; 110 12. 90; 90 13. 95; 85 14. 75; 75
- 106; 74 16. 90; 90 17. 65 18. 56 19. 48
- 23 21. 40 22. 77 23. Given
- Perpendicular lines form right angles.
- Definition of right angle 26. Given
- Corresponding Angles Postulate
- Definition of congruent angles
- Substitution Property of Equality
- Definition of right angle
- Perpendicular lines form right angles.

Practice Level C

- 114° ; Corresponding Angles Postulate
- 68° ; Alternate Interior Angles Theorem
- 64° ; Alternate Exterior Angles Theorem
- $113^\circ; 67^\circ$ 5. $46^\circ; 134^\circ$ 6. $79^\circ; 101^\circ$ 7. 43
- 36 9. 18 10. 90 11. 23 12. 31 13. 19; 98
- 68; 32 15. 6; 35 16. 32; 64 17. 83; 20
- 21.5; 23.5 19. Given; Vertical Angles Theorem; Corresponding Angles Postulate; Transitive Property of Congruence
- Given; Alternate Exterior Angles Theorem; Given; Corresponding Angles Postulate; Transitive Property of Congruence

Review for Mastery

- Using the Vertical Angles Congruence Theorem, $m\angle 8 = 65^\circ$. By the Corresponding Angles Postulate, $m\angle 4 = 65^\circ$. Because $\angle 8$ and $\angle 6$ are corresponding angles, by the Corresponding Angles Postulate, you know that $m\angle 6 = 65^\circ$.
- Using the Vertical Angles Congruence Theorem, $m\angle 3 = 115^\circ$. By the Corresponding Angles Postulate, $m\angle 7 = 115^\circ$. Because $\angle 3$ and $\angle 1$ are corresponding angles, by the Corresponding Angles Postulate, you know that $m\angle 1 = 115^\circ$.
- 68 4. 25 5. 12 6. 10
- 10 8. 5 9. 12 10. 16

Problem Solving Workshop: Using Alternative Methods

- 115° ; by the Alternate Exterior Angles Theorem
- 30° ; by the Consecutive Interior Angles Theorem

Challenge Practice

- $m\angle 1 = 42^\circ, m\angle 2 = 138^\circ, m\angle 3 = 138^\circ, m\angle 4 = 42^\circ, m\angle 5 = 132^\circ, m\angle 6 = 48^\circ, m\angle 7 = 48^\circ, m\angle 8 = 132^\circ, m\angle 9 = 90^\circ, m\angle 10 = 90^\circ, m\angle 11 = 90^\circ, m\angle 12 = 90^\circ, m\angle 13 = 132^\circ, m\angle 14 = 48^\circ, m\angle 15 = 48^\circ, m\angle 16 = 132^\circ, m\angle 17 = 42^\circ, m\angle 18 = 138^\circ, m\angle 19 = 138^\circ, m\angle 20 = 42^\circ$
- $m\angle 1 = 35^\circ, m\angle 2 = 145^\circ, m\angle 3 = 111^\circ, m\angle 4 = 69^\circ, m\angle 5 = 111^\circ, m\angle 6 = 69^\circ, m\angle 7 = 145^\circ, m\angle 8 = 35^\circ, m\angle 9 = 69^\circ, m\angle 10 = 111^\circ, m\angle 11 = 69^\circ, m\angle 12 = 111^\circ, m\angle 13 = 76^\circ, m\angle 14 = 104^\circ, m\angle 15 = 76^\circ, m\angle 16 = 104^\circ, m\angle 17 = 104^\circ, m\angle 18 = 76^\circ, m\angle 19 = 104^\circ, m\angle 20 = 76^\circ$