

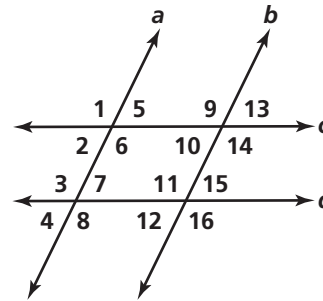
Chapter Test

Form G

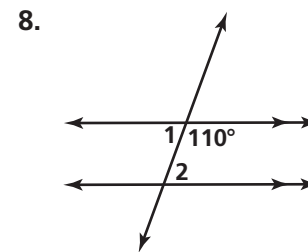
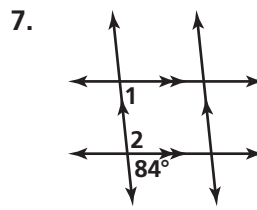
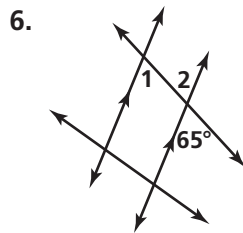
Chapter 3

Decide whether each statement must be *true* or *false*. Use the figure for Exercises 1–8.

1. $\angle 2$ and $\angle 7$ are alternate interior angles.
2. $\angle 5$ and $\angle 6$ are same-side interior angles.
3. $\angle 1$ and $\angle 3$ are corresponding angles.
4. If $\angle 14$ and $\angle 15$ are congruent, then $a \parallel b$.
5. If $\angle 10$ and $\angle 11$ are supplementary, then $c \parallel d$.



Find $m\angle 1$ and $m\angle 2$. Determine in each exercise whether $\angle 1$ and $\angle 2$ are alternate interior angles, same-side interior angles, or corresponding angles.



9. Graph the line $y = -x + 1$. Draw the line parallel to this line that contains $(-1, -2)$.
10. Graph the line $y = -\frac{1}{2}x - 1$. Draw the line perpendicular to this line that contains $(2, 1)$.

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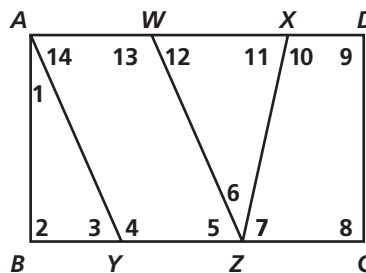
Chapter Test (continued)

Form G

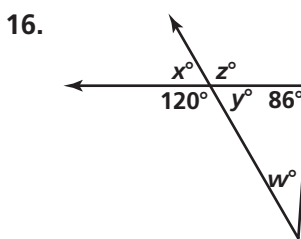
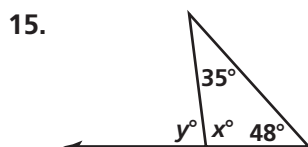
Chapter 3

Use the given information to determine which segments must be parallel. If there are no such segments, write *none*.

11. $\angle 5 \cong \angle 12$
12. $m\angle 6 + m\angle 7 = m\angle 13$
13. $m\angle 4 + m\angle 14 = 180$
14. $\overline{AB} \perp \overline{BC}$ and $\overline{DC} \perp \overline{BC}$



Find the values of the variables.



17. What is the interior angle sum of a convex octagon?
18. What is the measure of each exterior angle of a regular decagon?

Determine whether the following pairs of lines are *parallel*, *perpendicular*, or *neither*.

- | | | |
|----------------------------------|---------------------------------------------|-----------------------------------|
| 19. $y = -x + 3$
$x + y = -3$ | 20. $y = -\frac{1}{3}x - 5$
$3x + y = 6$ | 21. $y = 5x + 4$
$5x + y = -8$ |
|----------------------------------|---------------------------------------------|-----------------------------------|

Write the equation in slope-intercept form of each line described.

22. The line is parallel to $y = -3x - 5$ and contains $(1, 4)$.
23. The line is perpendicular to $y = \frac{1}{2}x + 3$ and contains $(-3, 2)$.
24. The line has a slope of 2 and contains $(-2, -1)$.

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