

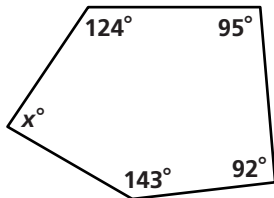
# Mid-Course Test

# Form A

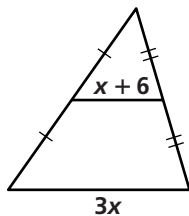
## Chapters 1–6

1. Find the next two terms in the sequence.  
1, 3, 7, 15, 31, ...

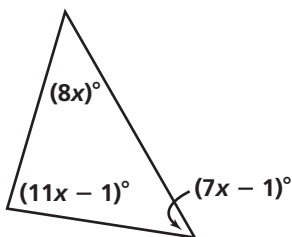
2. Find the value of  $x$ .



3. Find the value of  $x$ .

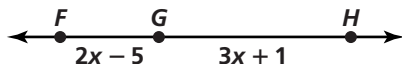


4. Find the value of  $x$ .



5. Graph quadrilateral  $ABCD$  with vertices  $A(-5, 2)$ ,  $B(-5, -3)$ ,  $C(2, -3)$ , and  $D(2, 2)$  to determine its most precise name.

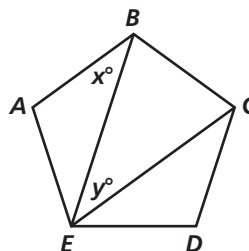
6.  $FH = 56$ . Find the value of  $x$ .



7. Give the coordinates of four points that determine a parallelogram.

8. In  $\triangle ABC$ ,  $AB = 12$ ,  $BC = 15$ , and  $AC = 22$ . List the angles from largest to smallest.

9. Find the values of the variables, given that  $ABCDE$  is a regular pentagon.



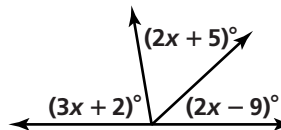
10. Statement: If it is sunny, then it is summer.

- a. Write the converse of the statement.  
b. Write the inverse of the statement.

11. Which pair of lines is perpendicular?

- |                         |                           |
|-------------------------|---------------------------|
| A. $y = 2x - 5$         | B. $y = \frac{2}{3}x + 1$ |
| $y = 2x + 3$            | $y = \frac{3}{2}x + 1$    |
| C. $y = 3x + 5$         | D. $y = 4x - 5$           |
| $y = -\frac{1}{3}x - 8$ | $y = -4x + 2$             |

12. Find the value of  $x$ .

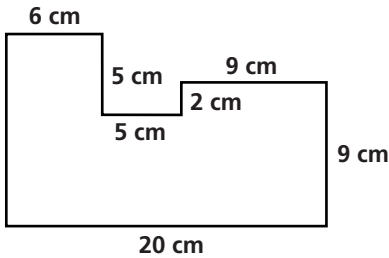


# Mid-Course Test (continued)

# Form A

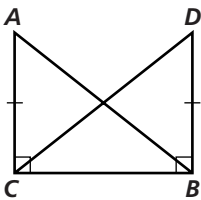
## Chapters 1–6

13. Find the perimeter.

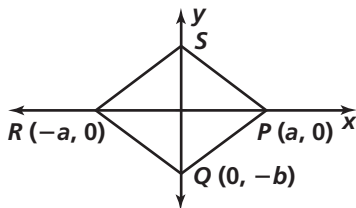


14. What is the measure of an exterior angle of a regular hexagon?

15. Name a pair of overlapping congruent triangles. State whether the triangles are congruent by SSS, SAS, ASA, AAS, or HL.

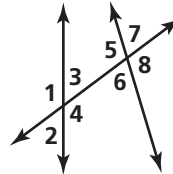


16. For rhombus  $PQRS$ , give the coordinates of  $S$  without using any new variables.

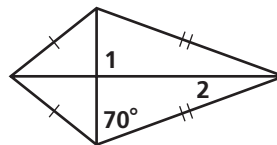


17. Refer to the diagram.

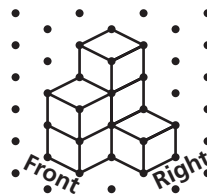
- Name a pair of same-side interior angles.
- Name a pair of corresponding angles.



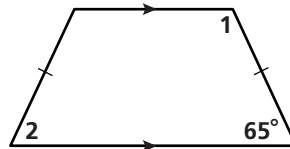
18. Find  $m\angle 1$  and  $m\angle 2$ .



19. Create a foundation drawing from the isometric drawing.



20. Find the measures of  $\angle 1$  and  $\angle 2$ .



# Mid-Course Test (continued)

# Form A

## Chapters 1–6

Complete each statement with the word *always*, *sometimes*, or *never*.

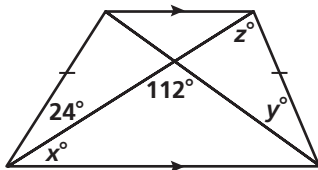
21. The diagonals of a parallelogram   ? bisect each other.

22. An isosceles trapezoid   ? has two pairs of opposite sides congruent.

23. Two skew lines   ? intersect.

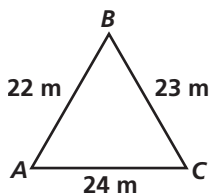
24. Two coplanar lines   ? intersect.

25. Find the values of the variables.

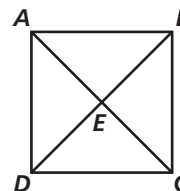


26. Explain why a rectangle is always a parallelogram, but a parallelogram is not always a rectangle.

27. List the angles of  $\triangle ABC$  in order of angle measure from smallest to largest.



For Exercises 28–33, give  $ABCD$  the most precise name possible. Choose from *quadrilateral*, *parallelogram*, *rectangle*, *rhombus*, *kite*, *square*, and *trapezoid*.



28.  $ABCD$  is a parallelogram;  $m\angle C = 90$ .

29.  $ABCD$  is a parallelogram;  $m\angle DEA = 90$ .

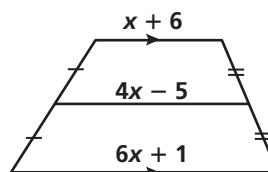
30.  $ABCD$  is a parallelogram;  $AD = DC$ ;  $AC = DB$ .

31.  $\overline{AB} \parallel \overline{DC}$ ;  $m\angle CBD \neq m\angle ADB$

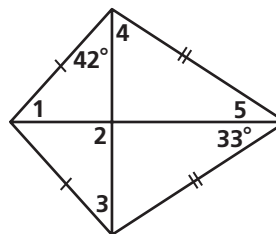
32.  $AE = BE = CE = DE$

33.  $\overline{AB} \cong \overline{DC}$ ;  $\overline{AD} \cong \overline{BC}$ ;  $\overline{AC} \perp \overline{BD}$

34. Find the value of  $x$ .



35. Find the measures of the numbered angles.



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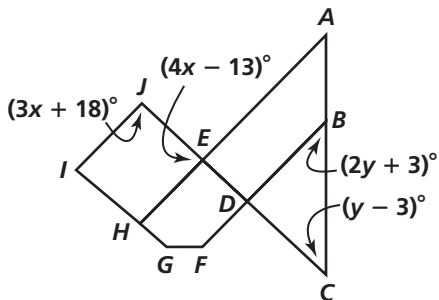
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# Mid-Course Test (continued)

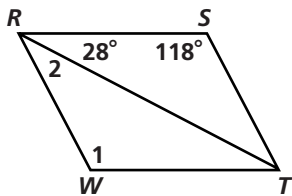
# Form A

## Chapters 1–6

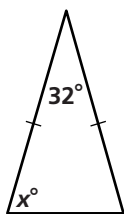
36. Find the values of the variables, given  $\overline{BF} \parallel \overline{AH} \parallel \overline{IJ}$  and  $\overline{IJ} \perp \overline{GI}$ .



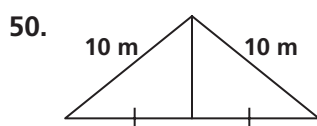
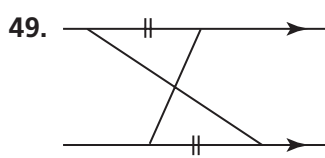
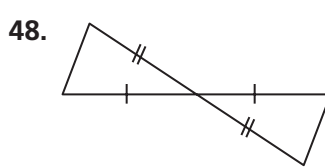
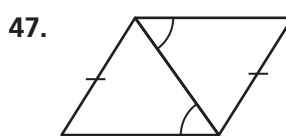
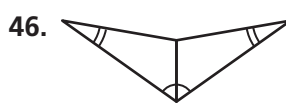
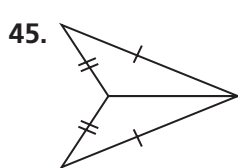
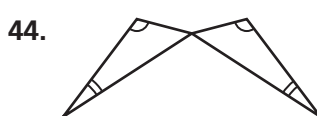
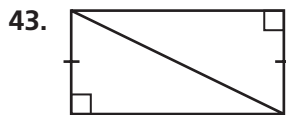
37. Find the midpoint of  $\overline{AB}$  with  $A(-1, 5)$  and  $B(6, -3)$ .
38. The lengths of two sides of a triangle are 5 and 8. Which can be the length of the third side?  
**F.** 2      **G.** 13      **H.** 15      **J.** 7
39. In parallelogram  $RSTW$ , find  $m\angle 1$  and  $m\angle 2$ .



40. What is the distance between  $(-2, 3)$  and  $(4, -1)$ ? Round your answer to the nearest tenth.
41. A circle has radius 12 in. Find its area and circumference to the nearest tenth.
42. Find the value of  $x$ .



For each pair of triangles, state the postulate or theorem you can use to prove the triangles congruent. If the triangles cannot be proven congruent, write *not possible*.



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