Chapter 5 Quiz 1
(Lessons 5–1 and 5–2)

1. What is the point called where the perpendicular bisectors of the sides of a triangle intersect?

2. True or false? \( m\angle 4 > m\angle 2 \)

3. What is the name of the point that is two-thirds of the way from each vertex of a triangle to the midpoint of the opposite side?

4. If \( CD \) is the perpendicular bisector of \( AB \) and \( AB \) is the perpendicular bisector of \( CD \), find \( x \).

5. Find the shortest segment.

Chapter 5 Quiz 2
(Lesson 5–3)

1. What do you assume in an indirect proof?

For Questions 2 and 3, write the assumption you would make to start an indirect proof of each statement.

2. If \( 2x + 7 = 19 \), then \( x = 6 \).

3. If \( \triangle ABC \) is isosceles with base \( AC \), then \( AB \cong BC \).

For Questions 4 and 5, write the assumption you would make to start an indirect proof.

4. Given: \( 3x - 10 > 20 \)
   Prove: \( x > 10 \)

5. Given: \( \overline{CD} \) is not a median of \( \triangle ABC \).
   \( \angle 1 \cong \angle 2 \)
   Prove: \( CB \neq CA \)
Chapter 5 Quiz 3  
(Lesson 5-4)

1. Write $AB$, $AC$, and $AD$ in order from least to greatest measure.

2. Determine whether $A(2, 3), B(7, 12), C(-5, -24)$ are the vertices of $\triangle ABC$. Explain your answer.

3. Name the shortest distance from $A$ to $BC$.

4. Write an inequality expressing the possible values for $x$.

5. STANDARDIZED TEST PRACTICE Which of the following sets of numbers can be the lengths of the sides of a triangle?  
   A. 5, 5, 10    B. $\sqrt{39}, \sqrt{8}, \sqrt{5}$    C. 2.5, 3.4, 4.6    D. 1, 2, 4

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Chapter 5 Quiz 4  
(Lesson 5-5)

1. Write an inequality comparing $m\angle 1$ to $m\angle 2$.

2. Write an inequality comparing $\overline{AB}$ to $\overline{DE}$.

3. Write an inequality about the length of $GH$.

For Questions 4 and 5, complete the proof by supplying the missing information for each corresponding location.

Given: $\triangle ACE$, $AB = DE$, and $BE > AD$  
Prove: $m\angle CAE > m\angle CEA$

<table>
<thead>
<tr>
<th>Statements</th>
<th>Reasons</th>
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<tbody>
<tr>
<td>$AB = DE, BE &gt; AD$</td>
<td>1. Given</td>
</tr>
<tr>
<td>$AB \cong \overline{DE}$</td>
<td>2. Def. of $\cong$ segments</td>
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<td>3. (Question 4)</td>
<td>3. Reflexive Prop.</td>
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<td>4. $m\angle CAE &gt; m\angle CEA$</td>
<td>4. (Question 5)</td>
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