

### Quiz 4.1: Exterior Angle Inequality Theorem

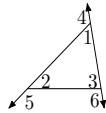
**Multiple Choice:** Choose the letter that corresponds to the correct answer. Write the answer in your answer sheet.

- “The measure of an exterior angle of a triangle is greater than the measure of either remote interior angle.” This is stated in:
  - Exterior angle inequality theorem
  - Interior angle inequality theorem
  - Triangle inequality theorem
  - Triangle exterior theorem
- An interior angle that is not adjacent to the exterior angle is called:
  - Alternate interior angle
  - Consecutive interior angle
  - Corresponding interior angle
  - Remote interior angle
- The angle between a side of a polygon and an extended adjacent side is called:
  - Alternate angle
  - Consecutive angle
  - Exterior angle
  - Interior angle
- Which theorem states that the sum of the lengths of any two sides of a triangle is greater than the length of the third side?
  - Exterior angle inequality theorem
  - Interior angle inequality theorem
  - Triangle inequality theorem
  - Triangle exterior theorem

- Based on the figure, what is the interior angle in relation to  $\angle 6$ ?

A.  $\angle 2$                       B.  $\angle 3$                       C.  $\angle 4$

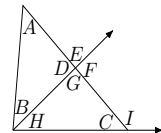
D.  $\angle 5$



- Based on the figure, which of the following statements is true?

A.  $m\angle E < m\angle A$                       B.  $m\angle B < m\angle E$                       C.  $m\angle F > m\angle H$

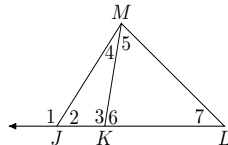
D.  $m\angle C > m\angle F$



- Which of the following measures **cannot** be used to form a triangle?

A. 7, 2, 7                      B. 5, 7, 11                      C. 5, 8, 13

D. 7, 16, 10

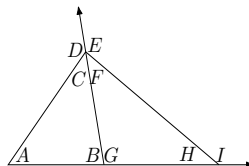


- Refer to the figure to determine the inequality symbol that makes the statement  $m\angle 3$        $m\angle 7$  correct.

A.  $\angle A$                       B.  $\angle E$                       C.  $\angle F$                       D.  $\angle I$

- Two sides of  $\triangle ABC$  have the measures  $a = 7$ ,  $c = 9$ . Find the range of possible measures for the third side.

A.  $6 < b < 8$                       B.  $2 < b < 16$                       C.  $5 < b < 11$                       D.  $4 < b < 15$



- Based on the figure, which of the following angles has a measure that is greater than  $m\angle C$ ?

A.  $\angle A$                       B.  $\angle E$                       C.  $\angle F$                       D.  $\angle I$

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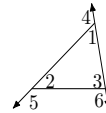
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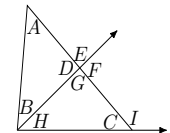
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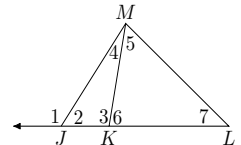
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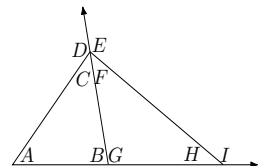


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