Lesson 11: Conditions on Measurements That Determine a Triangle

Problem Set

1. Decide whether each set of three given lengths determines a triangle. For any set of lengths that does determine a triangle, use a ruler and compass to draw the triangle. Label all side lengths. For sets of lengths that do not determine a triangle, write “Does not determine a triangle,” and justify your response.
2. , ,
3. , ,
4. , ,
5. , ,
6. , ,
7. , ,
8. For each angle measurement below, provide one angle measurement that will determine a triangle and one that will not determine a triangle. Provide a brief justification for the angle measurements that will not form a triangle. Assume that the angles are being drawn to a horizontal segment ; describe the position of the non-horizontal rays of angles and .

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|  | **: A Measurement That Determines a Triangle** | **: A Measurement That *Does Not* Determine a Triangle** | **Justification for No Triangle** |
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1. For the given side lengths, provide the minimum and maximum whole number side lengths that determine a triangle.

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| **Given Side Lengths** | **Minimum Whole Number Third Side Length** | **Maximum Whole Number Third Side Length** |
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