

Triangle Practice

NAME _____

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.

a. 3 cm, 4 cm, 5 cm

b. 1 cm, 4 cm, 5 cm

c. 1 cm, 5 cm, 5 cm

d. 8 cm, 3 cm, 4 cm

e. 8 cm, 8 cm, 4 cm

f. 4 cm, 4 cm, 4 cm

2. 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 AB ; describe the position of the non-horizontal rays of angles $\angle A$ and $\angle B$.

A	B: A Measurement That Determines a Triangle	B: A Measurement That <i>Does Not</i> Determine a Triangle	Justification for No Triangle
40°			
100°			
90°			
135°			

3. For the given side lengths, provide the minimum and maximum whole number side lengths that determine a triangle.

Given Side Lengths	Minimum Whole Number Third Side Length	Maximum Whole Number Third Side Length
5 cm, 6 cm		
3 cm, 7 cm		
4 cm, 10 cm		
1 cm, 12 cm		