

Name : \_\_\_\_\_

## Triangle Inequality

Sheet 1

Determine if the three lengths can be the measures of the sides of a triangle.

1) 3 in, 9 in and 8 in

2) 37 ft, 13 ft and 21 ft

3) 16 ft, 6 ft and 2 ft

4) 7 yd, 5 yd and 10 yd

5) 25 yd, 17 yd and 29 yd

6) 32 in, 11 in and 20 in

7) Alice prepares a cheese sandwich for her supper. She stuffs an isosceles triangular cheese slice in it. Which of the following is the possible side measures of the cheese slice?

a) 3 in, 5 in, 8 in

b) 4 in, 4 in, 6 in

c) 3 in, 3 in, 6 in

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## Answer key

Sheet 1

# Triangle Inequality

Determine if the three lengths can be the measures of the sides of a triangle.

1) 3 in, 9 in and 8 in

$$3 + 9 > 8$$

$$8 + 3 > 9$$

$$9 + 8 > 3$$

**The sides form a triangle.**

2) 37 ft, 13 ft and 21 ft

$$37 + 21 > 13$$

$$13 + 37 > 21$$

$$21 + 13 \not> 37$$

**The sides do not form a triangle.**

3) 16 ft, 6 ft and 2 ft

$$16 + 6 > 2$$

$$6 + 2 \not> 16$$

$$2 + 16 > 6$$

**The sides do not form a triangle.**

4) 7 yd, 5 yd and 10 yd

$$7 + 5 > 10$$

$$10 + 5 > 7$$

$$10 + 7 > 5$$

**The sides form a triangle.**

5) 25 yd, 17 yd and 29 yd

$$17 + 25 > 29$$

$$17 + 29 > 25$$

$$29 + 25 > 17$$

**The sides form a triangle.**

6) 32 in, 11 in and 20 in

$$11 + 20 \not> 32$$

$$32 + 11 > 20$$

$$20 + 32 > 11$$

**The sides do not form a triangle.**

7) Alice prepares a cheese sandwich for her supper. She stuffs an isosceles triangular cheese slice in it. Which of the following is the possible side measures of the cheese slice?

a) 3 in, 5 in, 8 in

b) 4 in, 4 in, 6 in

c) 3 in, 3 in, 6 in