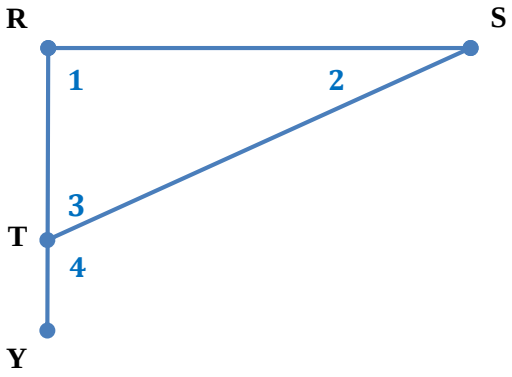
Name: _____ Period: _____ Date: _____

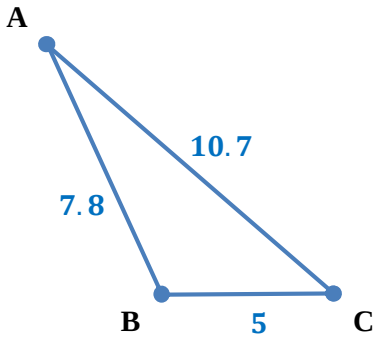
INEQUALITIES IN ONE TRIANGLE Exit Quiz

Write the angles in order from smallest to largest.

1.

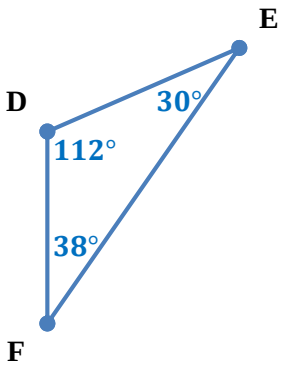


2.



Write the sides in order from shortest to longest.

3.



Determine whether a triangle can have sides with the given lengths.

4. $3x,\ 2x-1,\ x^2\ ;\ when\ x=5$

The lengths of two sides of a triangle is given. Find the range of possible lengths for the third side.

5. $3..6\ ft,\ 6.2\ ft$

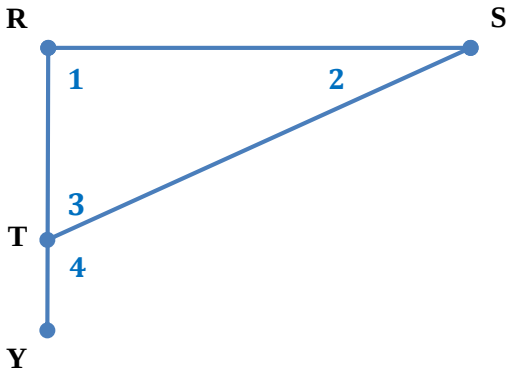
Name: _____ Period: _____ Date: _____

INEQUALITIES IN ONE TRIANGLE Exit Quiz

ANSWER

Write the angles in order from smallest to largest.

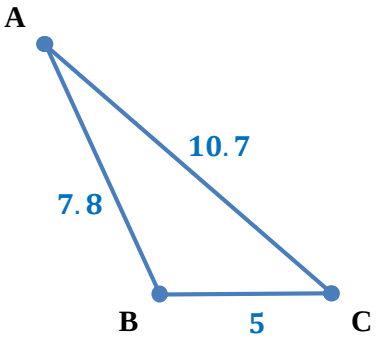
1.



$\overline{RT} < \overline{RS} < \overline{ST}$

$m\angle 2 < m\angle 3 < m\angle 1 < m\angle 4$

2.

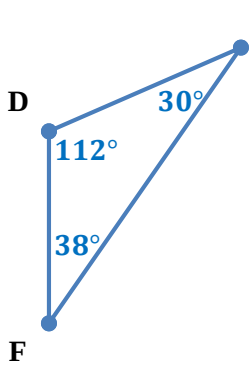


$\overline{BC} < \overline{AB} < \overline{AC}$

$m\angle A < m\angle C < m\angle B$

Write the sides in order from shortest to longest.

3.



$m\angle E < m\angle F < m\angle D$

$\overline{DF} < \overline{DE} < \overline{EF}$

Determine whether a triangle can have sides with the given lengths.

4. $3x,\ 2x-1,\ x^2\ ;\ when\ x=5$ **NOT A TRIANGLE**

$3x = 3(5) = 15$

$2x - 1 = 2(5) - 1 = 10 - 1 = 9$

$x^2 = (5)^2 = 25$

$15 + 9 > 25$
$24 > 25$

$9 + 25 > 15$
$24 > 15$

$25 + 15 > 9$
$40 > 9$

The lengths of two sides of a triangle is given. Find the range of possible lengths for the third side.

5. $3.6\ ft,\ 6.2\ ft$

$2.6 < x < 9.8$

$3.6 + 6.2 > x$
$9.8 > x$

$6.2 + x > 3.6$
$x > 3.6 - 6.2$
$x > -2.6$

$x + 3.6 > 6.2$
$x > 6.2 - 3.6$
$x > 2.6$