

Solve the following triangles. Find all solutions. Round sides to nearest tenth and angles to nearest minute.

1.  $a = 12, b = 35, C = 70^\circ$

$A = 20^\circ 3'$	$a = 12$
$B = 89^\circ 57'$	$b = 35$
$C = 70^\circ$	$c = 32.9$

2.  $a = 3, b = 7, c = 5$

$A = 21^\circ 47'$	$a = 3$
$B = 120^\circ$	$b = 7$
$C = 38^\circ 13'$	$c = 5$

3.  $C = 50^\circ, a = 16, c = 14$

$A = 61^\circ 6'$	$a = 16$	$A = 118^\circ 54'$	$a = 16$
$B = 68^\circ 54'$	$b = 17.1$	$B = 11^\circ 6'$	$b = 3.5$
$C = 50^\circ$	$c = 14$	$C = 50^\circ$	$c = 14$

4.  $A = 28^\circ 15', B = 110^\circ 23', c = 19$

$A = 28^\circ 15'$	$a = 13.6$
$B = 110^\circ 23'$	$b = 26.9$
$C = 41^\circ 22'$	$c = 19$

5.  $A = 63^\circ 15', a = 40, c = 58$

## No Triangle

$$a < h$$

6. Determine the values of side  $a$  that will produce the given number of triangles if  $A = 28^\circ$  and  $c = 15$ .

a. Zero Triangles

b. One Triangle

c. Two Triangles

$$a < 7.0$$

$$a = 7.0 \text{ or } a \geq 15$$

$$7.0 < a < 15$$

7. Determine the values of side  $b$  that will produce the given number of triangles if  $B = 62^\circ$  and  $a = 23$ .

a. Zero Triangles

b. One Triangle

c. Two Triangles

$$b < 20.3$$

$$b = 20.3 \text{ or } b \geq 23$$

$$20.3 < b < 23$$