

7.3A

2023-2024

SM3 Law of Sines Ambiguous Case

SCORE:

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Name _____ Date _____ Period _____

Draw and label a triangle with the given information. Determine the number of triangles with the given parts. Solve each triangle. If there is no triangle or second triangle, write NA in the blanks. Round to the nearest tenth.

1. $A = 39.6^\circ$, $c = 18.4$, $a = 3.7$

$m\angle A_1 = \underline{\hspace{2cm}}$ $a_1 = \underline{\hspace{2cm}}$

$m\angle B_1 = \underline{\hspace{2cm}}$ $b_1 = \underline{\hspace{2cm}}$

$m\angle C_1 = \underline{\hspace{2cm}}$ $c_1 = \underline{\hspace{2cm}}$

$m\angle A_2 = \underline{\hspace{2cm}}$ $a_2 = \underline{\hspace{2cm}}$

$m\angle B_2 = \underline{\hspace{2cm}}$ $b_2 = \underline{\hspace{2cm}}$

$m\angle C_2 = \underline{\hspace{2cm}}$ $c_2 = \underline{\hspace{2cm}}$

2. $A = 41.2^\circ$, $a = 8.1$, $b = 10.6$

$m\angle A_1 = \underline{\hspace{2cm}}$ $a_1 = \underline{\hspace{2cm}}$

$m\angle B_1 = \underline{\hspace{2cm}}$ $b_1 = \underline{\hspace{2cm}}$

$m\angle C_1 = \underline{\hspace{2cm}}$ $c_1 = \underline{\hspace{2cm}}$

$m\angle A_2 = \underline{\hspace{2cm}}$ $a_2 = \underline{\hspace{2cm}}$

$m\angle B_2 = \underline{\hspace{2cm}}$ $b_2 = \underline{\hspace{2cm}}$

$m\angle C_2 = \underline{\hspace{2cm}}$ $c_2 = \underline{\hspace{2cm}}$

3. $B = 138.1^\circ$, $c = 6.3$, $b = 15.6$

$m\angle A_1 = \underline{\hspace{2cm}}$ $a_1 = \underline{\hspace{2cm}}$

$m\angle B_1 = \underline{\hspace{2cm}}$ $b_1 = \underline{\hspace{2cm}}$

$m\angle C_1 = \underline{\hspace{2cm}}$ $c_1 = \underline{\hspace{2cm}}$

$m\angle A_2 = \underline{\hspace{2cm}}$ $a_2 = \underline{\hspace{2cm}}$

$m\angle B_2 = \underline{\hspace{2cm}}$ $b_2 = \underline{\hspace{2cm}}$

$m\angle C_2 = \underline{\hspace{2cm}}$ $c_2 = \underline{\hspace{2cm}}$

4. $C = 128.6^\circ$, $a = 9.6$, $c = 8.2$

$m\angle A_1 = \underline{\hspace{2cm}}$ $a_1 = \underline{\hspace{2cm}}$

$m\angle B_1 = \underline{\hspace{2cm}}$ $b_1 = \underline{\hspace{2cm}}$

$m\angle C_1 = \underline{\hspace{2cm}}$ $c_1 = \underline{\hspace{2cm}}$

$m\angle A_2 = \underline{\hspace{2cm}}$ $a_2 = \underline{\hspace{2cm}}$

$m\angle B_2 = \underline{\hspace{2cm}}$ $b_2 = \underline{\hspace{2cm}}$

$m\angle C_2 = \underline{\hspace{2cm}}$ $c_2 = \underline{\hspace{2cm}}$

5. $B = 32.7^\circ$, $a = 37.5$, $b = 28.6$

$m\angle A_1 = \underline{\hspace{2cm}}$ $a_1 = \underline{\hspace{2cm}}$

$m\angle B_1 = \underline{\hspace{2cm}}$ $b_1 = \underline{\hspace{2cm}}$

$m\angle C_1 = \underline{\hspace{2cm}}$ $c_1 = \underline{\hspace{2cm}}$

$m\angle A_2 = \underline{\hspace{2cm}}$ $a_2 = \underline{\hspace{2cm}}$

$m\angle B_2 = \underline{\hspace{2cm}}$ $b_2 = \underline{\hspace{2cm}}$

$m\angle C_2 = \underline{\hspace{2cm}}$ $c_2 = \underline{\hspace{2cm}}$

6. $C = 99.6^\circ$, $b = 10.3$, $c = 12.4$

$m\angle A_1 = \underline{\hspace{2cm}}$ $a_1 = \underline{\hspace{2cm}}$

$m\angle B_1 = \underline{\hspace{2cm}}$ $b_1 = \underline{\hspace{2cm}}$

$m\angle C_1 = \underline{\hspace{2cm}}$ $c_1 = \underline{\hspace{2cm}}$

$m\angle A_2 = \underline{\hspace{2cm}}$ $a_2 = \underline{\hspace{2cm}}$

$m\angle B_2 = \underline{\hspace{2cm}}$ $b_2 = \underline{\hspace{2cm}}$

$m\angle C_2 = \underline{\hspace{2cm}}$ $c_2 = \underline{\hspace{2cm}}$