

The Ultimate Secret of Ambiguous Cases of Using the Law of Sine

Lesson 193 | Precalculus | SSA ambiguous case

https://www.youtube.com/watch?v=YakP_M91kJE

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01 For the SSA data $A=30^\circ$, $b=10$, and $a=12$, determine the number of possible triangles and find possible B angles to 0.1° .

02 For the SSA data $A=30^\circ$, $b=18$, and $a=15$, determine the number of possible triangles and find possible B angles to 0.1° .

03 For the SSA data $A=30^\circ$, $b=10$, and $a=9$, determine the number of possible triangles and find possible B angles to 0.1° .

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04

For the SSA data $A=30^\circ$, $b=14$, and $a=9$, determine the number of possible triangles and find possible B angles to 0.1° .

05

For the SSA data $A=30^\circ$, $b=22$, and $a=16$, determine the number of possible triangles and find possible B angles to 0.1° .

06

For the SSA data $A=30^\circ$, $b=22$, and $a=14$, determine the number of possible triangles and find possible B angles to 0.1° .

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- 01** For the SSA data $A=30^\circ$, $b=10$, and $a=12$, determine the number of possible triangles and find possible B angles to 0.1° .

Height $b \sin A=5$. Since $a=12 \geq b=10$, there is one triangle: $B \approx 24.6^\circ$. Its supplement would make $A+B \geq 180^\circ$.

- 02** For the SSA data $A=30^\circ$, $b=18$, and $a=15$, determine the number of possible triangles and find possible B angles to 0.1° .

Height $b \sin A=9$. Since $9 < 15 < 18$, there are two triangles. $\sin B=9/15$, so $B \approx 36.9^\circ$ or 143.1° . Both leave a positive C .

- 03** For the SSA data $A=30^\circ$, $b=10$, and $a=9$, determine the number of possible triangles and find possible B angles to 0.1° .

Height $b \sin A=5$. Since $5 < 9 < 10$, there are two triangles. $\sin B=5/9$, so $B \approx 33.7^\circ$ or 146.3° . Both leave a positive C .

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04

For the SSA data $A=30^\circ$, $b=14$, and $a=9$, determine the number of possible triangles and find possible B angles to 0.1° .

Height $b \sin A = 7$. Since $7 < 9 < 14$, there are two triangles. $\sin B = 7/9$, so $B \approx 51.1^\circ$ or 128.9° . Both leave a positive C .

05

For the SSA data $A=30^\circ$, $b=22$, and $a=16$, determine the number of possible triangles and find possible B angles to 0.1° .

Height $b \sin A = 11$. Since $11 < 16 < 22$, there are two triangles. $\sin B = 11/16$, so $B \approx 43.4^\circ$ or 136.6° . Both leave a positive C .

06

For the SSA data $A=30^\circ$, $b=22$, and $a=14$, determine the number of possible triangles and find possible B angles to 0.1° .

Height $b \sin A = 11$. Since $11 < 14 < 22$, there are two triangles. $\sin B = 11/14$, so $B \approx 51.8^\circ$ or 128.2° . Both leave a positive C .