Thursday, March 28, 2019
8:03 PM

KEY

6.1C - Law of Sines Practice

Homework: Finish CW WS

- Quarterly 5.1-5.5, 6.1

Objective:

SWBAT: Use Law of Sines to solve oblique ASA, AAS and SSA triangles.

Do Now:

Homework questions…

Law of Sines & SSA summary...

Begin by determining if you have ASA, AAS or SSA. If you have SSA, first determine the number of solutions that exist...

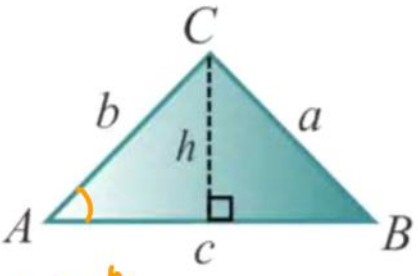
1. Given **obtuse angle** - One or no solution.
   - *Do sides lengths make sense?*
   - *Is the sine of the angle in the range of the sine function?*

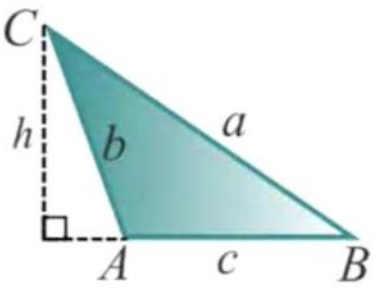
2. Given **acute angle** - One, two or no solutions.
   - *Use Law of Sines to set-up proportion to find missing angle.*
   - *If sine > 1, no solution!*
   - *If sine < 1, find angles in QI and QII.*
   - *Are both triangles possible?*
     YES, 2 solutions. NO, 1 solution.

Homework questions...

Area of an Oblique Triangle

If ABC is a triangle with sides a, b and c, find the area of the triangle.





* $\sin A = \frac{h}{b}$

$h = b \sin A$

$\text{Area} = \frac{1}{2} bh = \frac{1}{2} c\, b \sin A$

* *How do we find the height of each triangle?*

$$Area = \frac{1}{2}bc\sin A = \frac{1}{2}ab\sin C = \frac{1}{2}ac\sin B$$

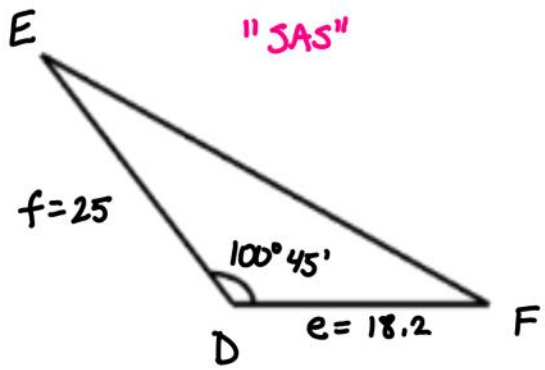
*You can use this formula **only** when given SAS!!*

Practice

Area of an Oblique Triangle

$$Area = \frac{1}{2}bc\sin A = \frac{1}{2}ab\sin C = \frac{1}{2}ac\sin B$$

11. Find the area of the triangle with given measurements: $D = 100°45'$, $e = 18.2$, $f = 25$.



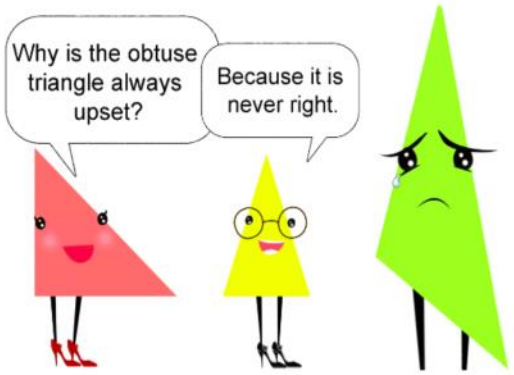
"SAS"

Area = $\frac{1}{2}ef\sin D$

$= \frac{1}{2}(18.2)(25)\sin 100°45'$

$= 223.51$ sq units

Hint: Use given values whenever possible!



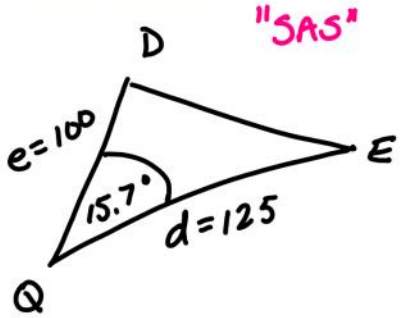
Your turn...

Area of an Oblique Triangle

$$Area = \frac{1}{2}bc\sin A = \frac{1}{2}ab\sin C = \frac{1}{2}ac\sin B$$

12. Find the area of the triangle with given measurements:
$Q = 15.7°$, $e = 100$, $d = 125$

"SAS"



Area $= \frac{1}{2}de\sin Q$

$= \frac{1}{2}(125)(100)\sin 15.7°$

$= 1691.25$ sq units

$\therefore$

Classwork...

Law of Sines Practice Problems worksheet,

Begin by determining if you have ASA, AAS or SSA. If you have SSA, you must determine the number of solutions that exist. Be clear in your solution!!