Today's Plan:

Learning Target (standard): I will use the Law of Sines and Cosines to solve triangles. I will find the area of oblique triangles.

Students will: Complete practice problems over previous concepts at the boards, put up homework problems on the board and make necessary corrections to their own work and take a test over oblique triangles .

Teacher will: Provide practice problems over previous concepts, check homework problems for accuracy and provide students feedback and test problems.

Assessment: Board work, homework check and test

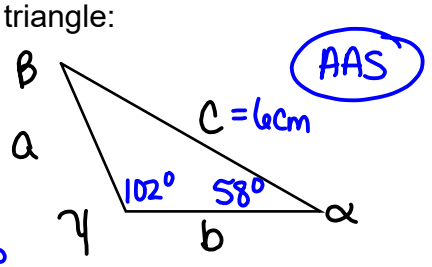
Differentiation: Students will work at the board, go over and correct homework at their seats and actively engage in test problems.

Find the area the triangle:

$\alpha = 58°$

$\gamma = 102°$

$c = 6cm$



AAS

$\beta = 180° - 102° - 58°$

$\beta = 20°$

$$A = \frac{c^2 \sin\alpha \sin\beta}{2\sin\gamma}$$

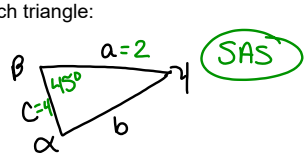
$$= \frac{6^2 \sin 58° \sin 20°}{2\sin 102°}$$

$$= \frac{36(.8480)(.3420)}{2(.9781)}$$

$A = 5.338\ cm^2$

Solve each triangle:

$\beta = 45°$
$a = 2$
$c = 4$



$b^2 = a^2 + c^2 - 2ac\cos\beta$

$b^2 = (2)^2 + (4)^2 - 2(2)(4)\cos 45°$

$b^2 = 4 + 16 - 11.3137$

$b^2 = 8.6863$

$b = 2.947$

$a^2 = b^2 + c^2 - 2bc\cos\alpha$

$(2)^2 = (2.947)^2 + 4^2 - 2(2.947)(4)\cos\alpha$

$4 = 8.6865 + 23.576\cos\alpha$

$-20.6865 = -23.576\cos\alpha$

$\cos\alpha = .8774$

$\alpha = \cos^{-1}(.8774)$

$\alpha = 28.665°$

$\gamma = 180° - 45° - 28.665°$

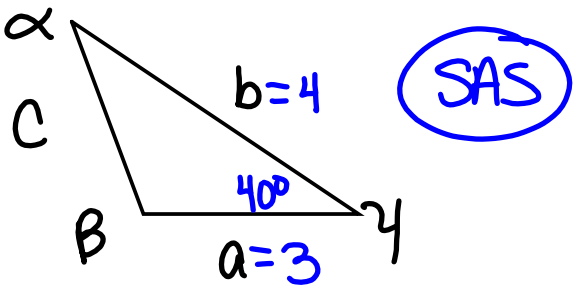
$\gamma = 106.335°$

Find the area of the triangle:

$a = 3$

$b = 4$

$\gamma = 40°$



$A = \frac{1}{2}ab\sin\gamma$

$= \frac{1}{2}(3)(4)\sin 40°$

$= 6(.6428)$

$A = 3.857\,u^2$

Assignment:

p.563 #35,37,41

(not for a grade, but for practice)

* Check answers in the back of the book *

* TEST on Solving Oblique Triangles and finding the area of oblique triangles - non-applied section Friday *

*TEST - Applied section of oblique triangles will be Monday *