LAW OF SINES AND LAW OF COSINES
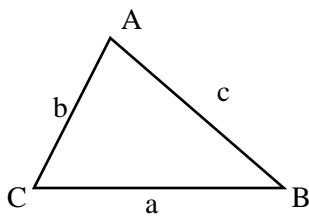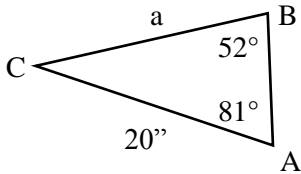
Given any ΔABC with sides a, b, and c, then:

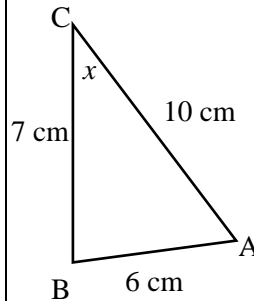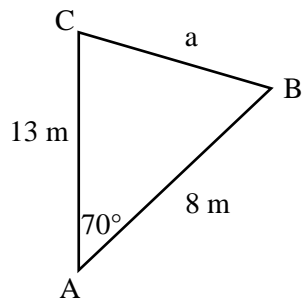|	**LAW OF SINES**:	**LAW OF COSINES**:

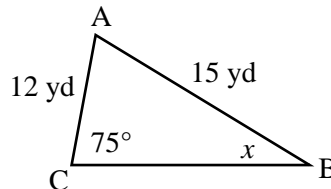● Given 2 angles and a side (AAS or ASA), use Law of _____:

● Given 3 sides (SSS), use Law of _____:

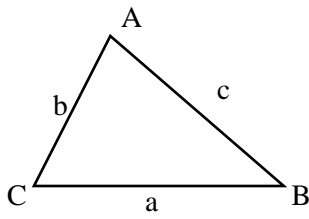● Given 2 sides and an included angle (SAS), use Law of _____:

● Given 2 sides and a non-included angle (SSA), use Law of _____:

Be careful of the ambiguous cases of SSA! Check to see if no triangle is possible, or if one or two triangles are possible.

LAW OF SINES AND LAW OF COSINES

Given any ∆ABC with sides a, b, and c, then:

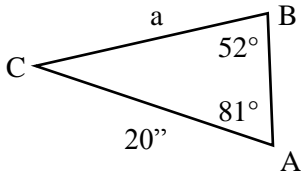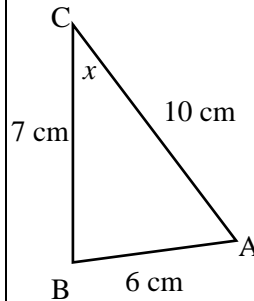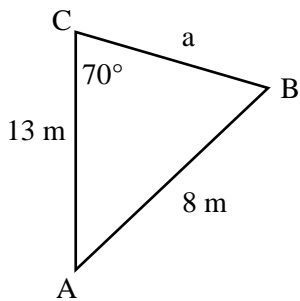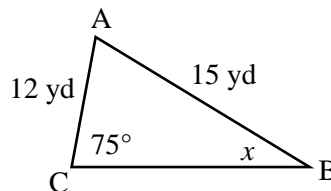|	**LAW OF SINES**:	**LAW OF COSINES**:
A b c C a B	$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$	$a^2 = b^2 + c^2 - 2bc\,cosA$ $b^2 = a^2 + c^2 - 2ac\,cosB$ $c^2 = a^2 + b^2 - 2ab\,cosC$

● Given 2 angles and a side (AAS or ASA), use Law of _____:

a   B
52°
C
81°
20"
A

● Given 3 sides (SSS), use Law of

_____:

C
x
7 cm   10 cm
A
B   6 cm

● Given 2 sides and an included angle (SAS), use Law of _____:

C
a
70°   B
13 m
8 m
A

● Given 2 sides and a non-included angle (SSA), use Law of _____:

A
12 yd   15 yd
75°   x
C   B

Be careful of the ambiguous cases of SSA! Check to see if no triangle is possible, or if one or two triangles are possible.