Quiz 3

Key

Part A: [2] True/False. Circle T if the statement is *always* true, otherwise circle F. No partial credit is given.

T F All squares are similar.

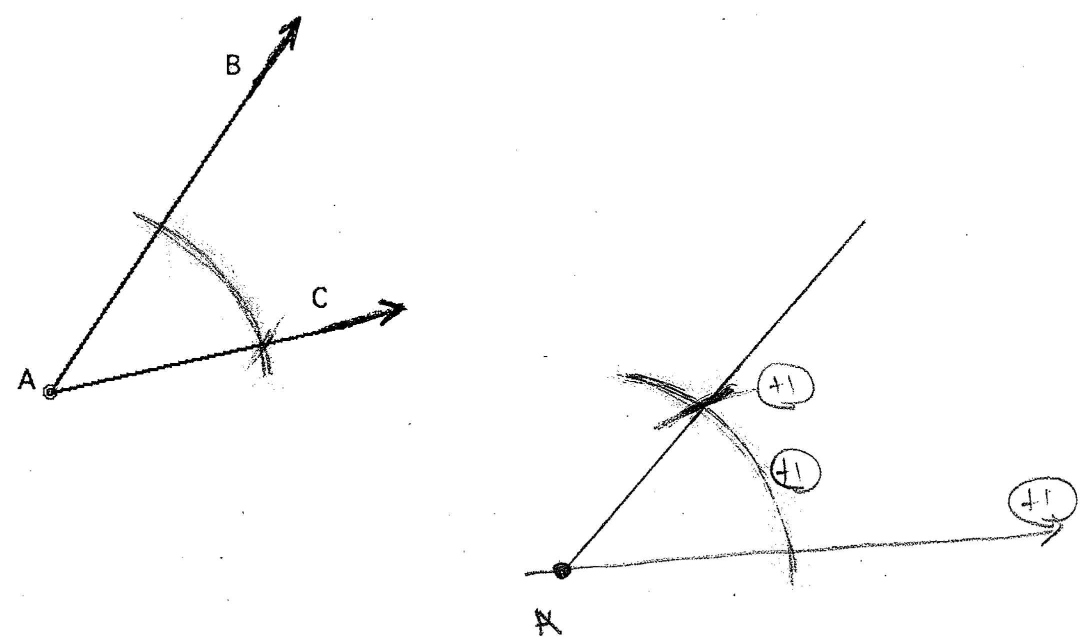
T F If $A \sim B$, then $A \cong B$.

T F Given $\triangle ABC$ and $\triangle A'B'C'$, where $\bar{AB} = \bar{A'B'}$, $\bar{AC} = \bar{A'C'}$, $\bar{BC} = \bar{B'C'}$, then $\triangle ABC \cong \triangle A'B'C'$. by SSS

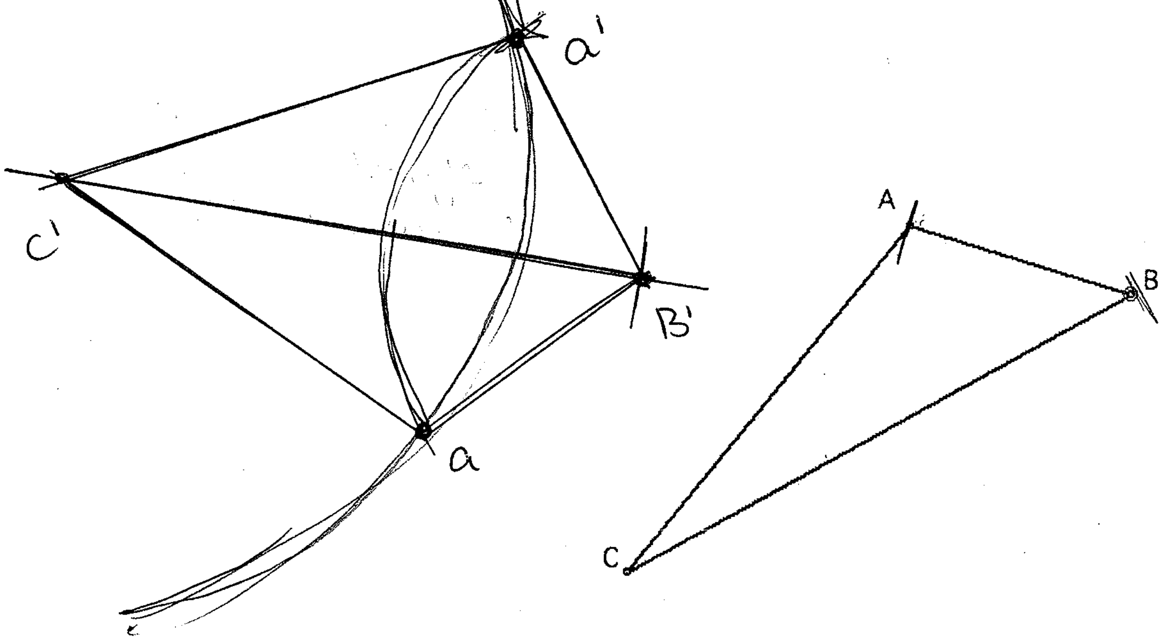
T F If $A \cong B$, then $A = B$.

Part B: Show *all* your work on the following. A right answer with no supporting work will receive no credit.

1. [3] Use only your compass and straightedge and copy the following angle. (Be sure to leave traces of your arcs so that I know how you did it.)



2. [5] Consider the triangle ABC below. *Show* (justify much we did in class on Tuesday) that any other triangle $A'B'C'$ with the properties AB=A'B', AC=A'C', and BC=B'C', is congruent to triangle ABC.



+3

Start with a line
and choose a point on the line.
Call this pt C'.
We will measure CB with the center of the arc at C'.
Call the intersection of the arc with the line B'.
Not B'C' = BC.
To place our third pt we draw arcs centered at C' and
B' with radia AC and BC respectively.

2nd triangle +1

Any triangle that has the property A'C' = AC and A'B' = AB
must lay on the intersection of the 2 arcs we've just
drawn.

Justify the same +1

If we call the 2 intersections a and a', we can
see $\triangle C'a'b' \cong \triangle C'ab'$ b/c $\angle B'C'a \cong \angle B'C'a'$,
$\angle C'B'a' \cong \angle C'B'a$ which implies
(b/c the sum of a $\triangle$'s interior angles are 180)
that $\angle C'a'B' \cong \angle C'aB'$.
Thus the only 2 triangles we could construct were
congruent implying any $\triangle$ with the above properties
is $\cong$ to $\triangle ABC$.