Solution to Assignment #2
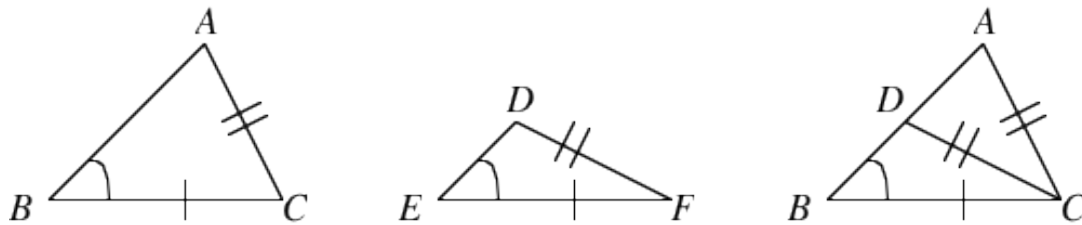**Angle-Side-Side?**

1. Determine whether the Angle-Side-Side congruence criterion actually works. That is, if $\angle ABC = \angle DEF$, $BC = EF$, and $CA = FD$, must it be true that $\triangle ABC \cong \triangle DEF$? If so, prove it; if not, give a counterexample. *[10]*
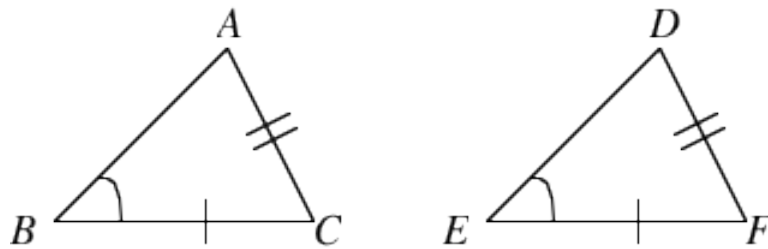
SOLUTION. If $\angle ABC = \angle DEF$ is acute, it is possible to construct a counterexample:

By the way, if $\angle ABC = \angle DEF$ is a right or an obtuse angle, this trick doesn't work. In those cases, Angle-Side-Side congruence does work. ∎