Unit 3: Logic and Reasoning Lesson 3.1
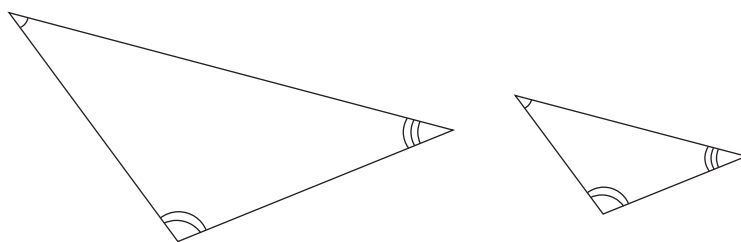
Coach's Corner – II

1. Provide a counterexample showing that each of the following conjectures is false. Explain.

   a. All birds can fly.

   An Ostrich is a counterexample. Ostriches are birds that cannot fly.

   b. Two triangles with equal angles are identical.

   The following two triangles have equal angles but are not identical.

   c. $\sqrt{x^2} = x$

   $x = -1;\ \sqrt{(-1)^2} = 1$

   d. In an open book, the right page will always contain an odd page number.

   Most books will include several unnumbered pages. Alternatively, many languages read books left to right, where the left page will have an odd page number.

2. Modify the following false conjecture to make it true.

   $\sqrt{x^2} = x$

   $\sqrt{x^2} = x,\ x \geq 0$

Please complete *Lesson 3.1 Game On!* located in *Workbook 3A* before proceeding to *Lesson 3.2*.