Select one of the following problems and write a solution:

1. Show that if *A* and *B* are the ends of the diameter of a circle and *C* is any point on the circle, then angle *ACB* is right.

2. Suppose *ABC* is a right triangle with right angle at *C*. Let *D* be the base of the perpendicular from *C* to *AB*. Prove the Pythagorean Theorem using the fact that the triangles *ADC*, *CDB* and *ACB* are similar.

3. Suppose *ABC* is a right triangle with right angle at *C*. Show how to cut the square on the hypotenuse *AB* into two rectangles, one with area equal to the square on leg *AC* and the other with area equal to the square on leg *BC*. (In this problem, I do not demand a proof.)

I WILL GIVE A SOLUTION TO PROBLEM: 1   2   3   (Circle one.)

MY SOLUTION IS: