■ **A. Suppose that you <u>may</u> cut a wire of lenght L into two parts. One part is to be bent into a circle and the other part is to be bent into a square. You seek to maximize the total area enclosed by the circle and square.**

[1] If you are <u>not</u> required to cut the wire and form both a circle and a square, how much of the wire should you use in making the circle and how much in making the square (perhaps use it all for the circle or all for the square).

[2] If you <u>are</u> required to cut the wire and form both a circle and a square, how much of the wire should you use in making the circle and how much in making the square.

■ **B. Suppose that you <u>may</u> cut a wire of lenght L into two parts. One part is to be bent into a circle and the other part is to be bent into a square. What is the <u>minimum</u> area that can be enclosed. (Answer in terms of L.)**