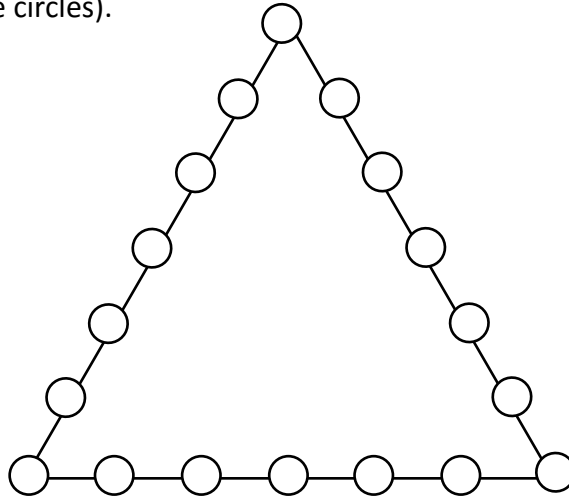# Triangle sum to 59

Each of the integers 1 through 18 is to be placed in one of the circles in the figure so that the sum of integers along each side in the figure is 59.

Determine the sum of the three integers places in the corners.

(Bonus: Find all the integers behind the circles).

Guides and hints (you will need to submit these for full credit):

a. At some stage, try and solve for these two simpler problems:
    a.1 A triangle made of only 6 circles, need to put the numbers 1..6, and the sum of each side is 9.
    a.2 A triangle made of only 9 circles, need to put the numbers 1..9, and the sum of each side is 17.

b. Hint 1: The sum of the three integers on the corners is a unique solution.
c. Hint 2: The other integers are not a unique solution.

d. Extensions (you do not need to do, but are welcome to ponder): Other polygon shapes; other sums; for which sums there is a solution; for which range of numbers;

=== End ====