

**J.** The function  $f(n)$  is defined for positive integers  $n$  according to the rules

$$f(1) = 1, \quad f(2n) = f(n), \quad f(2n + 1) = (f(n))^2 - 2.$$

The value of  $f(1) + f(2) + f(3) + \cdots + f(100)$  is

- (a)  $-86$ ,      (b)  $-31$ ,      (c)  $23$ ,      (d)  $58$ .