Quantitative Ability (Part 9 of 9)

1. Let S denote the infinite sum 2 + 5x + 9 × 2 + 14 × 3 + 20 × 4 + _____, where |x| < 1 and the coefficient of xn-1 is 1/2n (n + 3) (n = 1, 2, ...), Then S equals

    a. 2 – x/(1 – x) 3

    b. 2 – x/(1 + x) 3

    c. 2 + x/(1 – x) 3

    d. 2 + x/(1 + x) 3

    Answer: a

2. ABCD is a rectangle. The points p and Q lie on AD and AB respectively. If the triangles PAQ, QBC and PCD all have the same areas and BQ = 2, then AQ =

    a. 1 + v5

    b. 1 – v5

    c. v7

    d. 2v7

    Answer: a

3. For which value of k does the following pair of equations yield a unique solution for x such that the solution is positive? x2 – y2 = 0 (x-k) 2 + y2 = 1

    a. 2

    b. 0

    c. v2

    d. -v2

    Answer: c

4. In an examination, the average marks obtained by students who passed was x %, while the average of those who failed was y %. The average marks of all students taking the exam was z %. Find in terms of x, y and z, the percentage of students taking the exam who failed.

    a. (z-x)/(y-x)

b. (x-z)/(y-z)

c. (y-x)/(z-y)

d. (y-z)/(x-z)

Answer: a