3 homework questions. Please help.

8. The velocity  of the flow of blood at a distance  from the central axis of an artery of radius  is  where  is the constant of proportionality. Find the average rate of flow of blood along a radius of the artery. (Use 0 and  as the limits of integration.)

16. Sketch the region whose area is given by the definite integral. Then use a geometric formula to evaluate the integral.



23. Use the properties of summation and Theorem 4.2 to evaluate the sum:

