













$$x = a(3u - u^3)$$

$$y = 3au^2$$

$$z = a(3u + u^3)$$

(d) Evaluate

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$$\oiint_S (x^3 dy dz + x^2 y dz dx + x^2 z dx dy)$$

by Gauss divergence theorem, where S is the surface of the cylinder  $x^2 + y^2 = a^2$  bounded by  $z = 0$  and  $z = b$ .

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