16.4

7. $T_u = (2,1,3)\ T_v = (1,-4,0)\ N(u,v) = (12,3,-9)$
   $4(x-6)+(y+15)-3(z-3)=0$
13. $G_u = (\cos v, sinv, 1)\ G_v = (-usinv, ucosv, 0)$
   $\int_0^1 \int_0^1 \sqrt{2}u^4 du\, dv = \frac{\sqrt{2}}{5}$
15. $\frac{\partial y}{\partial x} = 0\ \frac{\partial y}{\partial z} = -2z\ dS = \sqrt{1+4z^2}dA\ \int_0^3 \int_0^3 z\sqrt{1+4z^2}dx\, dz = \frac{37\sqrt{37}-1}{4}$
19. $G(u,v) = (2cosu, 2sinu, v)\ G_u = (-2sinu, 2cosu, 0)\ G_v = (0,0,1)$
   $dS = 2dudv\ \int_0^4 \int_0^{2\pi} 2e^{-v} du\, dv = 4\pi(1-e^{-4})$

16.5

5. $\int_0^1 \int_0^1 13x - 13y - 4dx\, dy = -4$
7. $\int_0^3 \int_0^{\sqrt{9-x^2}} \frac{9+3y-x^2-y^2}{\sqrt{9-x^2-y^2}} dx\, dy = 9 + \frac{27\pi}{4}$
9. $\int_0^3 \int_0^{\sqrt{9-y^2}} 2x(9-x^2-y^2) + 2y(9-x^2-y^2) + xdx\, dy = \frac{693}{5}$
11. $\int_0^1 \int_0^{1-y} y^2 + 2 - xdx\, dy = \frac{11}{12}$