$\text{div}\,\mathbf{F} = 2x + x + 1 = 3x + 1$ so

$$\begin{aligned}
\iiint_E \text{div}\,\mathbf{F}\,dV &= \iiint_E (3x+1)\,dV = \int_0^{2\pi}\int_0^{3}\int_0^{9-r^2}(3r\cos\theta+1)\,r\,dz\,dr\,d\theta \\
&= \int_0^{3}\int_0^{2\pi} r(3r\cos\theta+1)(9-r^2)\,d\theta\,dr \\
&= \int_0^{3} r(9-r^2)\Big[3r\sin\theta+\theta\Big]_{\theta=0}^{\theta=2\pi}\,dr \\
&= 2\pi\int_0^{3}(9r-r^3)\,dr = 2\pi\left[\tfrac{9}{2}r^2-\tfrac{1}{4}r^4\right]_0^{3} \\
&= 2\pi\left(\tfrac{81}{2}-\tfrac{81}{4}\right) = \tfrac{81}{2}\pi
\end{aligned}$$

On S_1: The surface is $z = 9 - x^2 - y^2$, $x^2 + y^2 \le 9$, with upward orientation,

and $\mathbf{F} = x^2\mathbf{i} + xy\mathbf{j} + (9 - x^2 - y^2)\mathbf{k}$. Then

$$\begin{aligned}
\iint_{S_1}\mathbf{F}\cdot d\mathbf{S} &= \iint_D\left[-(x^2)(-2x)-(-xy)(-2y)+(9-x^2-y^2)\right]dA \\
&= \iint_D\left[2x(x^2+y^2)+9-(x^2+y^2)\right]dA \\
&= \int_0^{2\pi}\int_0^{3}(2r\cos\theta\cdot r^2+9-r^2)\,r\,dr\,d\theta \\
&= \int_0^{2\pi}\left[\tfrac{2}{5}r^5\cos\theta+\tfrac{9}{2}r^2-\tfrac{1}{4}r^4\right]_{r=0}^{r=3}d\theta \\
&= \int_0^{2\pi}\left(\tfrac{486}{2}\cos\theta+\tfrac{81}{4}\right)d\theta = \left[\tfrac{486}{2}\sin\theta+\tfrac{81}{4}\theta\right]_0^{2\pi} = \tfrac{81}{2}\pi
\end{aligned}$$

On S_2: The surface is $z = 0$ with downward orientation, so

$\mathbf{F} = x^2\mathbf{i} + xy\mathbf{j}$, $\mathbf{n} = -\mathbf{k}$ and $\iint_{S_2}\mathbf{F}\cdot\mathbf{n}\,dS = \iint_{S_2} 0\,dS = 0$.

Thus $\iint_S \mathbf{F} \cdot d\mathbf{S} = \iint_{S_1} \mathbf{F} \cdot d\mathbf{S} + \iint_{S_2} \mathbf{F} \cdot d\mathbf{S} = \frac{81}{2}\pi.$