

$$\rho1[x_, y_] := 6 \sqrt{x^2 + y^2}$$

$$r1[\theta_] := 1 - \sin[\theta]$$

$$\int_0^{2\pi} \int_0^{r1[\theta]} \rho1[r \cos[\theta], r \sin[\theta]] r \, dr \, d\theta$$

10 π

$$\left(\int_0^{2\pi} \int_0^{r1[\theta]} (r \cos[\theta]) \rho1[r \cos[\theta], r \sin[\theta]] r \, dr \, d\theta \right) /$$

$$\left(\int_0^{2\pi} \int_0^{r1[\theta]} \rho1[r \cos[\theta], r \sin[\theta]] r \, dr \, d\theta \right)$$

0

$$\left(\int_0^{2\pi} \int_0^{r1[\theta]} (r \sin[\theta]) \rho1[r \cos[\theta], r \sin[\theta]] r \, dr \, d\theta \right) /$$

$$\left(\int_0^{2\pi} \int_0^{r1[\theta]} \rho1[r \cos[\theta], r \sin[\theta]] r \, dr \, d\theta \right)$$

$-\frac{21}{20}$

$$\int_0^{2\pi} \int_0^{r1[\theta]} (r \cos[\theta])^2 \rho1[r \cos[\theta], r \sin[\theta]] r \, dr \, d\theta // N$$

15.5509

$$\int_0^{2\pi} \int_0^{r1[\theta]} (r \sin[\theta])^2 \rho1[r \cos[\theta], r \sin[\theta]] r \, dr \, d\theta // N$$

43.8252

$$\int_0^{2\pi} \int_0^{r1[\theta]} r^2 \rho1[r \cos[\theta], r \sin[\theta]] r \, dr \, d\theta // N$$

59.3761

$$\rho2[x_, y_, z_] := 25 e^{-0.3 z} / (3 + x^2 + y^2)$$

$$\int_0^{2\pi} \int_0^7 \int_0^5 \rho2[r \cos[\theta], r \sin[\theta], z] r \, dr \, dz \, d\theta$$

513.146

$$f3[x_, y_, z_] := \text{Log}[1 + x^2 y z^3]$$

$$f3[0.5, 0.5, 0.5] + f3[1.5, 0.5, 0.5] + f3[2.5, 0.5, 0.5] + f3[3.5, 0.5, 0.5]$$

1.04534

$$\rho5[x_, y_, z_] := \sqrt{x^2 + y^2}$$

$$\int_0^{2\pi} \int_0^{10} \int_0^{15 - (3/2) r} \rho5[r \cos[\theta], r \sin[\theta], z] r \, dz \, dr \, d\theta // N$$

7853.98

$$\int_0^6 \int_0^{10 - 10 x/6} \int_0^{\frac{x}{3} - \frac{y}{5} + 2} dz \, dy \, dx$$

20

$$\frac{1}{3} \left(6 * 10 * \frac{1}{2} \right) * 2$$

20

$$\frac{\int_0^6 \int_0^{10-10x/6} \int_0^{-\frac{x}{3}-\frac{y}{5}+2} x \, dz \, dy \, dx}{\int_0^6 \int_0^{10-10x/6} \int_0^{-\frac{x}{3}-\frac{y}{5}+2} dz \, dy \, dx} // N$$

1.5

$$\frac{\int_0^6 \int_0^{10-10x/6} \int_0^{-\frac{x}{3}-\frac{y}{5}+2} y \, dz \, dy \, dx}{\int_0^6 \int_0^{10-10x/6} \int_0^{-\frac{x}{3}-\frac{y}{5}+2} dz \, dy \, dx} // N$$

2.5

$$\frac{\int_0^6 \int_0^{10-10x/6} \int_0^{-\frac{x}{3}-\frac{y}{5}+2} z \, dz \, dy \, dx}{\int_0^6 \int_0^{10-10x/6} \int_0^{-\frac{x}{3}-\frac{y}{5}+2} dz \, dy \, dx} // N$$

0.5

$$\int_0^6 \int_0^{10-10x/6} \int_0^{-\frac{x}{3}-\frac{y}{5}+2} (x^2 + y^2) \, dz \, dy \, dx // N$$

272.

$$f7[x_, y_] := 1 + 4 x + 9 y^2$$

$$\sqrt{1 + D[f7[x, y], x]^2 + D[f7[x, y], y]^2}$$

$$\sqrt{17 + 324 y^2}$$

$$\int_0^{2\pi} \int_0^{\pi/3} \int_{10}^{13} \text{Abs}[(\rho \sin[\phi] \cos[\theta]) (\rho \sin[\phi] \sin[\theta]) (\rho \cos[\phi])] \rho^2 \sin[\phi] \, d\rho \, d\phi \, d\theta // N$$

179382.