Textbook problems
https://openstax.org/books/calculus-volume-3/pages/5-4-triple-integrals
exercise 1: 193
exercise 2: 223

Textbook problems
https://openstax.org/books/calculus-volume-3/pages/5-5-triple-integrals-in-cylindrical-and-spherical-coordinates
exercise 3: 241
exercise 4: 249
exercise 5: 254

exercise 6:
Let C be the cylinder in $\mathbb{R}^3$ with equation in rectangular coordinates $x^2 + y^2 = R^2$, where $R > 0$ is a constant.
(i). Give an equation of this cylinder in cylindrical coordinates.
(ii). Give an equation of this cylinder in spherical coordinates coordinates. Your answer should be in the form $\rho = f(\varphi, \theta)$. Specify the range for φ and θ.

Textbook problems
https://openstax.org/books/calculus-volume-3/pages/5-5-triple-integrals-in-cylindrical-and-spherical-coordinates
exercise 7: 286
exercise 8: 275. Hint: integrate by parts.