Section 15.5: Additional Problems

1. Find the surface area of the part of the plane $4x + 2y - z + 5 = 0$ that lies above the region in the $xy-$plane bounded by $x + y = 10$, $y = x$ and $x = 3$.

2. **Set up the double integral** , in polar, that would give the surface area of the part of the
ellipsoid $4x^2 + 4y^2 + z^2 = 16$ that is above the plane $z = 2$.

3. Set up the integral to find the surface area of the portion of the function $z = x^2 + y^5$ above the region in the $xy-$plane that is bounded by $x + y = 18$, $y = 2x$, and $y = 4$.