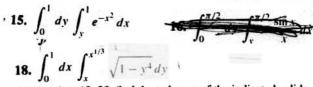
MATH 314 Asst#1

12.
$$\iint_T \sqrt{a^2 - y^2} dA$$
, where I is the triangle with vertices $(0,0)$, $(a,0)$, and (a,a)

14. $\iint_{T} \frac{xy}{1+x^4} dA$, where T is the triangle with vertices (0, 0 (1, 0), and (1, 1)

In Exercises 15-18, sketch the domain of integration and evaluation the given iterated integrals.



In Exercises 19-28, find the volumes of the indicated solids.

Find the volume lying inside both the sphere
$$x^2 + y^2 + z^2 = a^2$$
 and the cylinder $x^2 + y^2 = ax$.

- **26.** Find the volume of the region lying inside the circular cylinder $x^2 + y^2 = 2y$ and inside the parabolic cylinder $z^2 = y$.
- **34.** Evaluate $\iint_R (x^2 + y^2) dA$, where R is the region in the first quadrant bounded by y = 0, y = x, xy = 1, and $x^2 y^2 = 1$.
- **235.** Let T be the triangle with vertices (0, 0), (1, 0), and (0, 1). Evaluate the integral $\iint_T e^{(y-x)/(y+x)} dA$.
 - **36.** Use the method of Example 7 to find the area of the region inside the ellipse $4x^2 + 9y^2 = 36$ and above the line 2x + 3y = 6.