

$$+ \frac{44800x^3}{81(1-x^2)^{13/3}}$$

$$f^{IV}(0) = 0$$

$$f^{VI}(x) = \frac{22400x^2}{9(1-x^2)^{13/3}} + \frac{1120}{9(1-x^2)^{10/3}} +$$

$$+ \frac{3727360x^6}{729(1-x^2)^{19/3}} + \frac{582400x^4}{81(1-x^2)^{16/3}}$$

$$f^{VI}(0) = \frac{1120}{9}$$

$$f(x) \approx 1 + \frac{2}{3} \cdot \frac{1}{2!} \cdot x^2 + \frac{16}{3} \cdot \frac{1}{4!} \cdot x^4 +$$

$$+ \frac{1120}{9} \cdot \frac{1}{6!} \cdot x^6 =$$

$$= 1 + \frac{x^2}{3} + \frac{2}{9}x^4 + \frac{560}{27}x^6$$

$$\int_0^{\frac{1}{3}} \frac{dx}{\sqrt{1-x^2}} \approx \int_0^{\frac{1}{3}} \left(1 + \frac{x^2}{3} + \frac{2}{9}x^4 + \right.$$

$$\left. + \frac{560}{27}x^6 \right) dx =$$

$$= \left(x + \frac{x^3}{9} + \frac{2}{45}x^5 + \frac{560}{189}x^7 \right) \Big|_0^{\frac{1}{3}} \approx$$

$$\approx \left(\frac{1}{3} + 0,004 + 0,000183 + 0,001355 \right) =$$
$$= 0,338986$$

Formula 4.

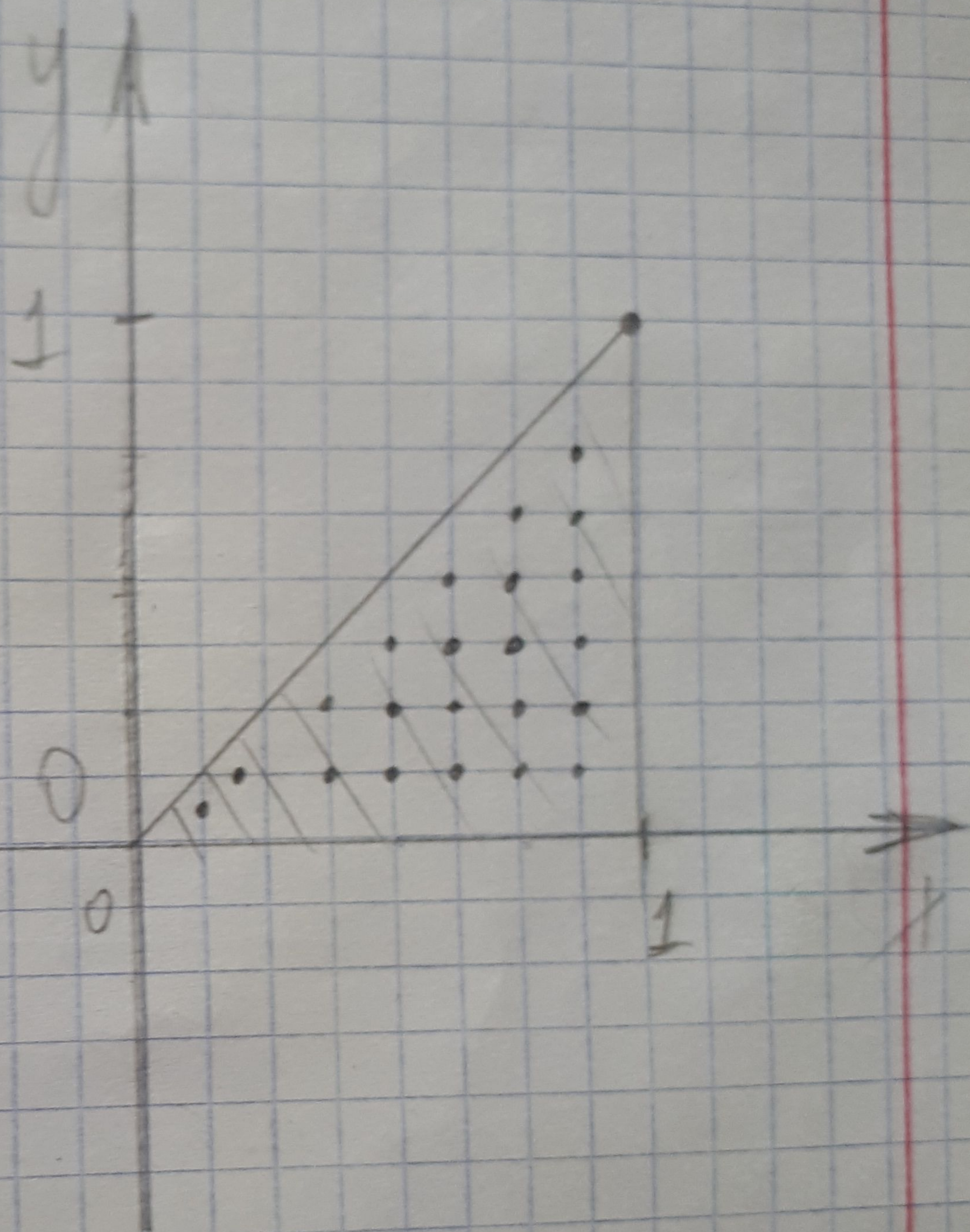
$$\iint_D \sqrt{x^2 - y^2} dx dy$$

D

$$O(0,0)$$

$$A(1,0)$$

$$B(1,1)$$



$$S_{OAB} = \frac{1}{2}$$

$$J = \frac{\sum_{i=1}^n f(x_i, y_i)}{n}$$

$$f(x_i, y_i) = \sqrt{x^2 - y^2}$$

	x_i	y_i	$f(x_i; y_i)$
1	0,125	0,0625	0,108253
2	0,1875	0,125	0,139754
3	0,375	0,125	0,353553
4	0,375	0,25	0,279508
5	0,5	0,125	0,484123
6	0,5	0,25	0,433013
7	0,5	0,375	0,330419
8	0,625	0,125	0,612372
9	0,625	0,25	0,572822
10	0,625	0,375	0,5
11	0,625	0,5	0,375
12	0,75	0,125	0,73951
13	0,75	0,25	0,704107
14	0,75	0,375	0,649519
15	0,75	0,5	0,559017
16	0,75	0,625	0,414578
17	0,875	0,125	0,866025
18	0,875	0,25	0,838525

19	0,875	0,375	0,790569
20	0,875	0,5	0,71807
21	0,875	0,625	0,612372
22	0,875	0,75	0,450694

$$n = 22$$

$$\sum_{n=1}^{22} f(x_i, y_i) = 11,535106$$

$$J = \frac{1}{2} \cdot \frac{11,535106}{22} \approx 0,262162$$