H20

2

(1)

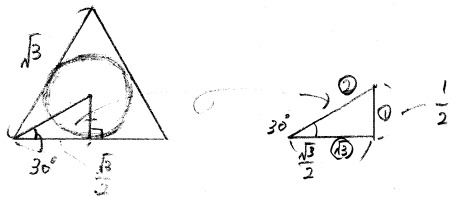
$$\frac{\sqrt{3}}{\sqrt{1+1+1}} = 1$$

$ax+by+cz+d=0$

と (x', y', z') の距離 r

$$r = \frac{|ax'+by'+cz'+d|}{\sqrt{a^2+b^2+c^2}}$$

円 C は 平面 P の内接円



$$r = \frac{1}{2} \quad , \quad S = \frac{\pi}{4}$$

(2)

$$\mathrm{rot}\, u = (1+1,\ 2+2,\ 3+3)$$

$$= (2,\ 4,\ 6)$$

$$\mathrm{rot}\, u \cdot n = (2,\ 4,\ 6) \cdot \frac{1}{\sqrt{3}}(1,\ 1,\ 1)$$

$$= \frac{12}{\sqrt{3}} = 4\sqrt{3}$$

(3)

$$\int_C \{(2z-3y)\,dx + (3x-z)\,dy + (y-2x)\,dz\}$$