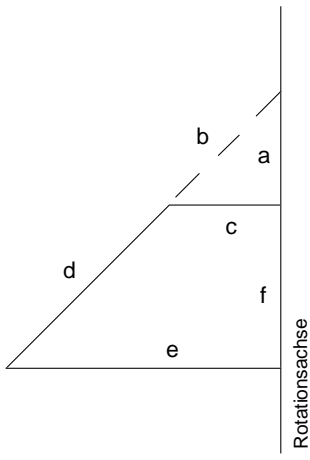
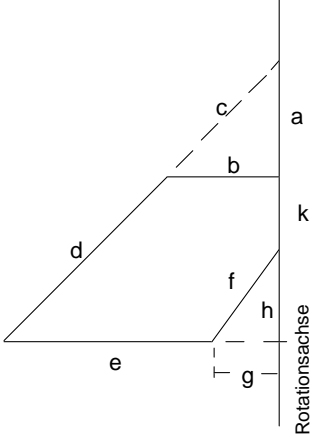
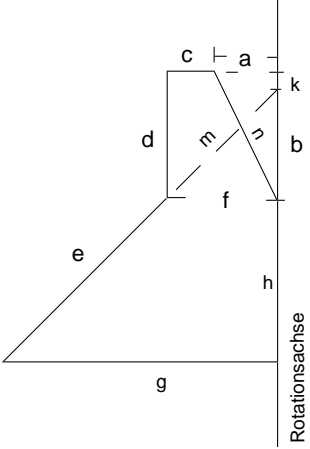
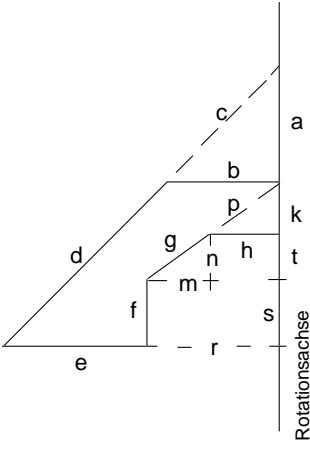
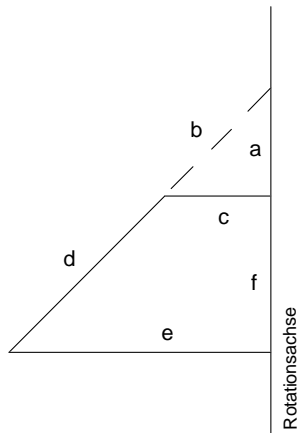


Geben Sie jeweils Volumen V und Oberflächeninhalt S mit Hilfe der gegebenen Strecken an!
 Welche Beziehungen gelten zwischen den gegebenen Strecken?

	$V = ? \quad S = ?$	Beziehungen
		
		
		
		

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Welche Beziehungen gelten zwischen den gegebenen Strecken?



$$V = \frac{\pi}{3}[e^2(a+f) - c^2a]$$

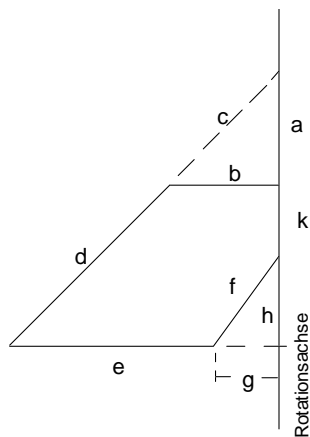
$$S = [e^2 + c^2 + (d+b)e - cb]\pi$$

$$b^2 = a^2 + c^2$$

$$d^2 = (e-c)^2 + f^2$$

$$\frac{e}{c} = \frac{f+a}{a} = \frac{d+b}{b}$$

$$\frac{d}{b} = \frac{f}{a}$$



$$V = \frac{\pi}{3}((e+g)^2(h+k+a) - b^2a - g^2h)$$

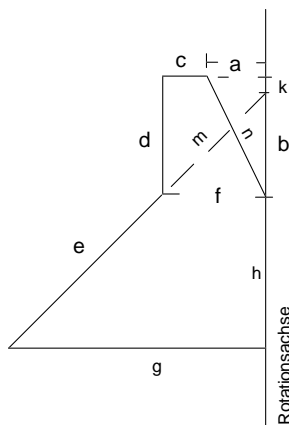
$$S = (b^2 + (e+g)^2 - g^2)\pi + [(d+c) \cdot (e+g) - bc]\pi + fg\pi$$

$$c^2 = a^2 + b^2; f^2 = g^2 + h^2$$

$$d^2 = (e+g-b)^2 + (h+k)^2$$

$$\frac{e+g}{b} = \frac{d+c}{c} = \frac{h+k+a}{a}$$

$$\frac{d}{c} = \frac{h+k}{a};$$



$$V = \frac{\pi}{3}(g^2(h+b) - f^2b) + f^2d\pi - \frac{\pi}{3}a^2d$$

$$S = (g^2 + f^2 - a^2)\pi + [(e+m)g - mf + an]\pi + 2\pi fd$$

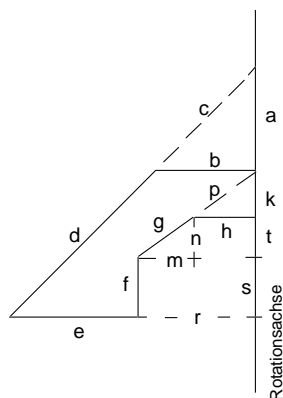
$$k+b=d; c+a=f;$$

$$a^2 + d^2 = n^2; m^2 = f^2 + b^2$$

$$e^2 = (g-f)^2 + h^2$$

$$\frac{g}{f} = \frac{e+m}{m} = \frac{h+b}{b}$$

$$\frac{e}{m} = \frac{h}{b}$$



$$V = \frac{\pi}{3}(e+r)^2(s+t+k+a) - \frac{\pi}{3}(b^2a + r^2(t+k)) - r^2\pi f + \frac{\pi}{3}h^2k$$

$$S = ((e+r)^2 - r^2 + b^2 + h^2)\pi + ((d+c)(e+r) - bc)\pi + (r(g+p) - ph)\pi + 2r\pi f$$

$$n=t; m+h=r; s=f;$$

$$c^2 = a^2 + b^2; p^2 = h^2 + k^2$$

$$g^2 = m^2 + n^2;$$

$$d^2 = (e+r-b)^2 + (s+t+k)^2$$

$$\frac{e+r}{b} = \frac{d+c}{c} = \frac{s+t+k+a}{a}$$

$$\frac{d}{c} = \frac{s+t+k}{a}; \frac{g}{p} = \frac{t}{k}$$

$$\frac{r}{h} = \frac{g+p}{p} = \frac{t+k}{k}$$