

Lösungen für Ü3

1) a) $1\frac{3}{20}$, b) $1\frac{11}{18}$, c) $6\frac{2}{15}$, d) $2\frac{1}{4}$
 e) $2\frac{5}{6}$, f) $1\frac{3}{8}$

2) a) $\frac{9}{14}$, b) $\frac{1}{9}$, c) $4\frac{1}{5}$, d) 6

3) a) $\frac{3}{4}$, b) $\frac{9}{10}$, c) $2\frac{4}{9}$, d) $\frac{1}{4}$

4) a) 30, b) $16\frac{1}{3}$, c) 15, d) $\frac{14}{45}$

e) 30 FLASCHEN, f) • 160 PERSONEN
 • 40%

5) $G = A_{\text{KREISRING}} = r_1^2 \pi - r_2^2 \pi = \pi (r_1^2 - r_2^2)$

$G =$

$V = G \cdot h =$

$m = \rho \cdot V =$

6) $A_{\text{KREIS}} = r^2 \pi =$

$V(3,5\%) = V \cdot 0,035 =$

$V_{\text{DZ}} = G \cdot h =$

$M = 2r\pi h =$

$0 = 2G + M =$

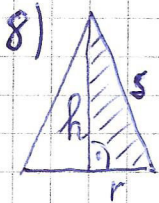
7) $V_{\text{KUGEL}} = \frac{4r^3 \pi}{3} =$

$O_{\text{KUGEL}} = 4r^2 \pi =$

$m = \rho \cdot V =$

$V_{\text{WÜRFEL}} = a^3 =$

$O_{\text{WÜRFEL}} = 6a^2 =$



$G = r^2 \pi =$

$V = \frac{r^2 \pi h}{3} =$

$s = \sqrt{r^2 + h^2}$
 $s =$

$M = r \pi s =$

$0 = G \cdot h$

$0 =$

9) KONSTR.: WIE SÜ!

$G = a^2 =$

$V = \frac{G \cdot h}{3} =$

$h_a = \sqrt{h^2 + \left(\frac{a}{2}\right)^2}$

$h_a =$

$M = \frac{a \cdot h_a}{2} \cdot 4$

$M = 2 \cdot a \cdot h_a$

$M =$

$0 = G + M$

$0 =$

10) KONSTR.: WIE SÜ!

$G = \frac{a^2 \cdot \sqrt{3} \cdot 6}{4}$

$G =$

$V = \frac{G \cdot h}{3}$

$V =$

$M = U_g \cdot h$

$M = 6a \cdot h$

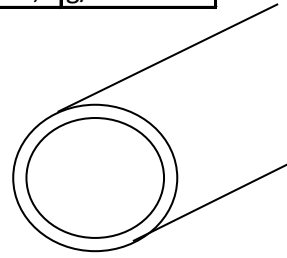
$0 = 2G + M$

$0 =$

5) Hohlzylinder:

r1 =	12	mm	Dichte	8,9	g/cm ³
r2 =	11	mm			
Länge/Höhe	2800	mm			

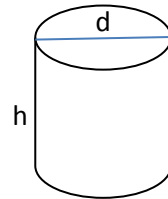
G=	72,26	mm ²			
V=	202.318,52	mm ³ =	202,32	cm ³	
m=	1.800,63	g =	1,80	kg	



6) Drehzylinder (z.B Wasserboiler):

r=	29	cm
h=	125	cm

G=	2.642,08	cm ²			
V=	330.259,93	cm ³ =	330,26	dm ³ = Liter	
V(3,5%)=	11.559,10	cm ³ =	11,56	Liter	
M=	22.776,55	cm ²			
O=	28.060,71	cm ² =	280,61	dm ²	2,81 m ²



7) Kugel:

r=	6	cm
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Würfel:

a=	12	cm
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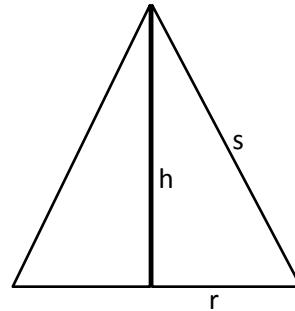
V=	904,78	cm ³
O=	452,39	cm ²

V=	1.728,00	cm ³
O=	864,00	cm ²

8) Drehkegel:

r=	26	mm
h=	64	mm

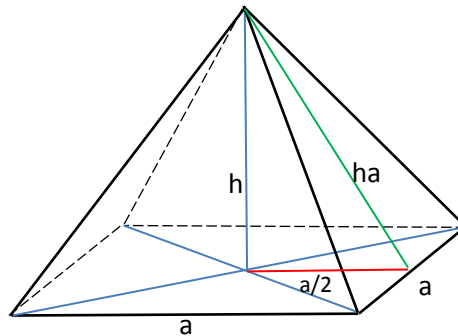
G=	2.123,72	mm ²
V=	45.305,95	mm ³
s=	69,08	mm
M=	5.642,52	mm ²
O=	9.889,96	mm ²



9) Quadratische Pyramide:

a=	62	mm
h=	68	mm

G=	3.844,00	mm ²
V=	87.130,67	mm ³
ha=	74,73	mm
M=	8.432,00	mm ²
O=	12.276,00	mm ²



10) Regelm. 6-seitiges Prisma:

a=	26	mm
h=	80	mm

G=	1.756,30	mm ²
V=	46.834,65	mm ³
M=	12.480,00	mm ²
O=	14.236,30	mm ²

