Harjoittele
s. 62

28 Kertaustehtäviä

253

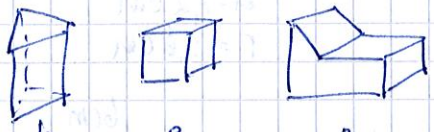
a) suorakulmaiset särmiöt

e

b) pyramidit

a

c) särmiöt



b e g

d) lieriöt

b c d e , f

e) ympyrälieriöt

c f

f) kartiot

a h

g) ympyräkartiot

h

254

m^3	dm^3	cm^3	mm^3
$\boxed{0{,}002}$	2	2000	2000 000
0,00005	$\boxed{0{,}05}$	50	50 000
0,048	48	$\boxed{48000}$	4800 000

255

a)

b) $V = A_p \cdot h$

$= 6\,cm \cdot 5\,cm \cdot 4\,cm$

$= \underline{120\,cm^3}$

$A = 2 \cdot 4\,cm \cdot 6\,cm + 2 \cdot 4\,cm \cdot 5\,cm + 2 \cdot 6\,cm \cdot 5\,cm$

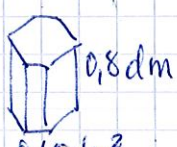
$= 48\,cm^2 + 40\,cm^2 + 60\,cm^2$

$= 148\,cm^2$

$\approx 150\,cm^2$

256

a)

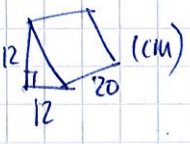


$V = A_p \cdot h$

$= 0{,}65\,dm^2 \cdot 0{,}8\,dm$

$\approx 0{,}52\,dm^3 \approx \underline{\underline{0{,}52\,l}}$

b)



$V = A_p \cdot h_1$

$= \frac{b \cdot h}{2} \cdot h_1$

$= \frac{12 \cdot 12}{2} \cdot 20\,cm^3$

$= 1440\,cm^3 \approx \underline{1{,}44\,l}$

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257 a)

d=7,2 cm
r=3,6 cm

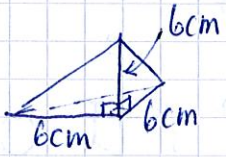
$V = \frac{A_p \cdot h}{3}$

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

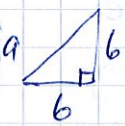
$= \frac{\pi \cdot (3{,}6\,cm)^2 \cdot 6{,}7\,cm}{3}$

$\approx \underline{91\,cm^3}$

b)



pohja

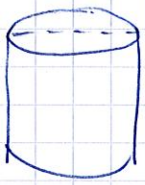


$V = \frac{A_p \cdot h}{3}$

$= \left(\frac{6cm \cdot 6cm}{2} \cdot 6cm\right) : 3$

$\approx \underline{36\,cm^3}$

258



d=20cm
r=10cm
h=11cm

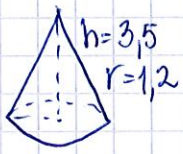
a) $A_p = \pi r^2 = \pi \cdot 10cm \cdot 10cm \approx \underline{310\,cm^2}$

b) $A_v = \pi d \cdot h = \pi \cdot 20cm \cdot 11cm \approx \underline{690\,cm^2}$

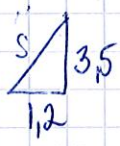
c) $A = \pi r^2 + \pi d h = \pi \cdot 10cm \cdot 10cm + \pi \cdot 20cm \cdot 11cm$
$\approx \underline{1300\,cm^2}$

d) $V = A_p \cdot h = \pi \cdot 10cm \cdot 10cm \cdot 11cm \approx \underline{3500\,cm^2}$

259 a)



$V = \frac{A_p h}{3} = \frac{\pi r^2 \cdot h}{3} = \frac{\pi (1{,}2cm)^2 \cdot 3{,}5cm}{3} \approx 5{,}3\,cm^3$



$s = \sqrt{3{,}5^2 + 1{,}2^2}$

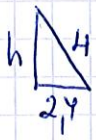
$A = A_p + A_v = \pi r^2 + \pi r s$

$= \pi \cdot (1{,}2cm)^2 + \pi \cdot 1{,}2cm \cdot \sqrt{3{,}5^2 + 1{,}2^2}\,cm$

$\approx 18\,cm^2$

b)

d=4,8 cm
r=2,4 cm
s=4,0cm



$h = \sqrt{4^2 - 2{,}4^2}$

$V = \frac{A_p \cdot h}{3} = \frac{\pi r^2 \cdot h}{3} = \pi \cdot (2{,}4cm)^2 \cdot \sqrt{4^2 - 2{,}4^2}\,cm$

$\approx 19\,cm^3$

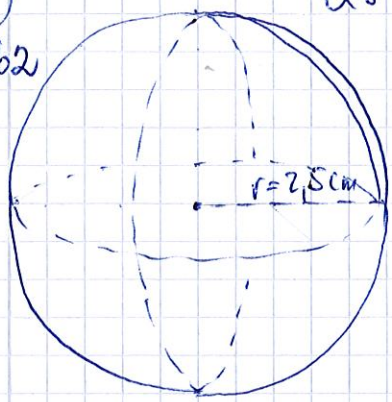
$A = A_p + A_v = \pi r^2 + \pi r s = \pi (2{,}4cm)^2 + \pi \cdot 2{,}4cm \cdot 4cm$

$\approx 48\,cm^2$

(Harjoittele) S.62

28 Kertaustehtäviä

260



$$V = \frac{4\pi r^3}{3} = \frac{4 \cdot \pi \cdot (2{,}5\,cm)^3}{3} \approx 65\,cm^3$$

$$A = 4\pi r^2 = 4 \cdot \pi \cdot (2{,}5\,cm)^2 \approx 79\,cm^2$$

261

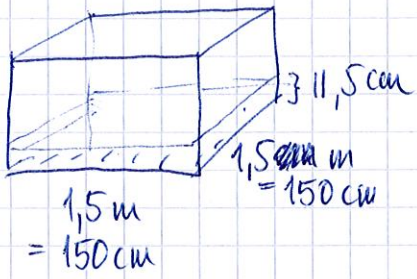
$d = 19\,cm$
$r = 9{,}5\,cm$

$$V = \frac{4\pi r^3}{3} = \frac{4 \cdot \pi \cdot (9{,}5\,cm)^3}{3} \approx 3600\,cm^3$$

$$A = 4\pi r^2 = 4 \cdot \pi \cdot (9{,}5\,cm) \approx 1100\,cm^2$$

262

a)



$V = A_p \cdot h$

$= 150\,cm \cdot 150\,cm \cdot 11{,}5\,cm$

$= 258750\,cm^3$

$\approx 259\,000\,cm^3$

b) $\text{tiheys} = \frac{\text{massa}}{\text{tilavuus}}$

$\text{massa} = \text{tiheys} \cdot \text{tilavuus} = 0{,}950\,kg/dm^3 \cdot 258{,}750\,dm^3 \approx 246\,kg$