

(1) Skakel die volgende om na die gegewe eenheid in hakies:

(a) $155 \text{ cm}^2 \text{ (mm}^2\text{)}$

$$= 155 \times (10)^2 \text{ mm}^2$$

$$= 15\,500 \text{ mm}^2$$

(d) $0,1 \text{ m}^3 \text{ (cm}^3\text{)}$

$$= 0,1 \times (100)^3 \text{ cm}^3$$

$$= 100\,000 \text{ cm}^3$$

(b) $0,112 \text{ km}^2 \text{ (cm}^2\text{)}$

$$= 0,112 \times (100\,000)^2 \text{ cm}^2$$

$$= 1\,120\,000\,000 \text{ cm}^2$$

(e) $2\,000 \text{ m}^2 \text{ (km}^2\text{)}$

$$= 2\,000 \div (1\,000)^2 \text{ km}^2$$

$$= 0,002 \text{ km}^2$$

(c) $28 \text{ cm}^3 \text{ (mm}^3\text{)}$

$$= 28 \times (10)^3 \text{ mm}^3$$

$$= 28\,000 \text{ mm}^3$$

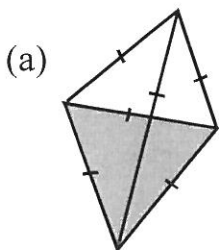
(f) $16 \text{ mm}^3 \text{ (cm}^3\text{)}$

$$= 16 \div 10^3 \text{ cm}^3$$

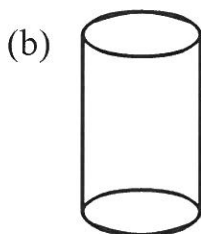
$$= 0,016 \text{ cm}^3$$

(2) Klassifiseer elk van die volgende veelvlakke. Gebruik die woorde in die woordbank.

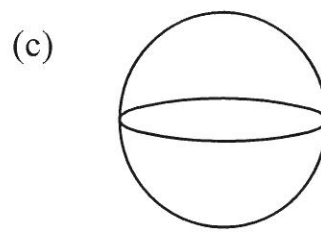
Kubus	Silinder	Kegel
Sfeer	Seshoekige prisma	Reghoekige piramide
Tetraëder		



Tetraëder



Silinder

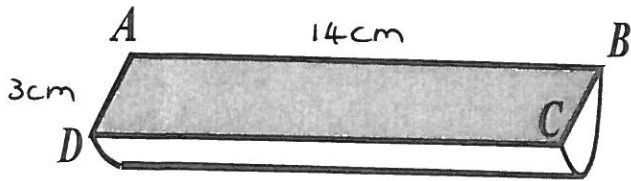


Sfeer

(3) Bereken die buite-oppervlakte, korrek tot 2 des, van die volgende:

(a) $AB = 14 \text{ cm}$ en $AD = 3 \text{ cm}$ → deursnee

$$\therefore r = 1,5 \text{ cm}$$



Buite-opp

$$= \frac{1}{2} \text{ silinder} + \text{Reghoek ABCD}$$

$$= \frac{1}{2} [2\pi r(r+H)] + [L \times B]$$

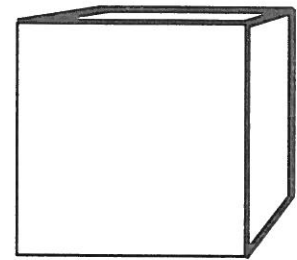
$$= \frac{1}{2} [2\pi \times 1,5(1,5+14)] + [14 \times 3]$$

$$= 73,042\dots + 42$$

$$= 115,042\dots$$

$$\approx 115,04 \text{ cm}^2$$

(b) Langsaan is 'n kubus met sylengte 24,5 mm



Buite-opp

$$= 6 \times \text{opp vierkant}$$

$$= 6 \times L^2$$

$$= 6 \times (24,5 \text{ mm})^2$$

$$= 6 \times 600,25 \text{ mm}^2$$

$$= 3601,5 \text{ mm}^2$$

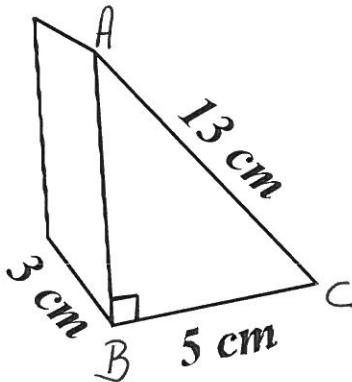
(4) Beskryf die verskil tussen 'n heksagoon en 'n heksaëder.

Heksagoon $\rightarrow$ veelhoek met ses hoeke en ses sye. $\therefore$ Twee-dimensioneel.

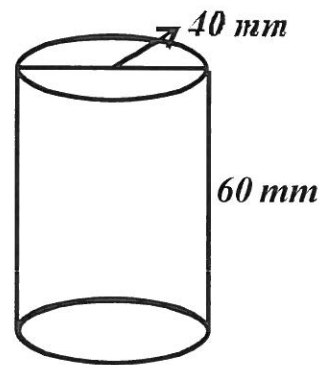
Heksaëder $\rightarrow$ veelvlak met ses syvlakke.
 $\therefore$ Drie-dimensioneel.

(5) Bereken die volume van die volgende. Gee die volume ook as cm^3 . Rond af tot 1 des.

(a)



(b)



$$AC^2 = AB^2 + BC^2 \quad [Pyth.]$$

$$(13)^2 = AB^2 + (5)^2$$

$$169 - 25 = AB^2$$

$$\therefore AB^2 = 144$$

$$\therefore AB = 12$$

Volume

$$= \text{Opp. basis} \times H$$

$$= \left(\frac{1}{2} b \times h\right) \times H$$

$$= \left(\frac{1}{2} \times 5 \times 12\right) \times 3$$

$$= 90 \text{ cm}^3$$

$$d = 40 \text{ mm}$$

$$\therefore r = 20 \text{ mm}$$

Volume

$$= \pi r^2 H$$

$$= \pi (20)^2 (60)$$

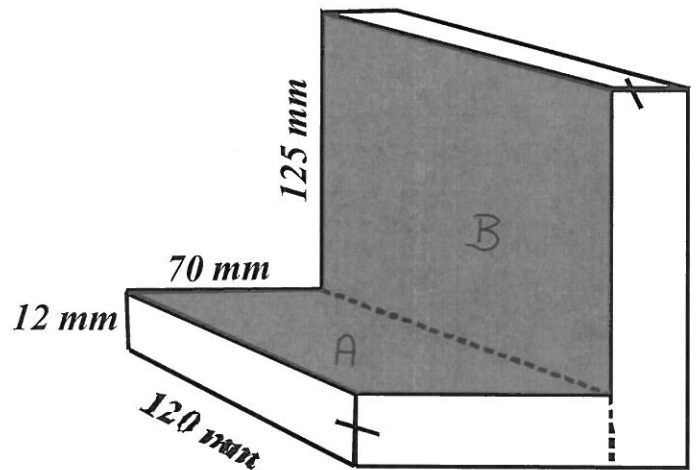
$$= 75\,398,22 \dots \text{ mm}^3$$

$$= 75\,398,22 \dots \div (10)^3 \text{ cm}^3$$

$$= 75,39822 \dots$$

$$\approx 75,4 \text{ cm}^3$$

- (6) (a) Bereken die volume van die prisma langsaa in mm^3 .
- (b) Bereken die volume van die prisma ook in cm^3 .
- (c) Bereken die totale buite-oppervlakte van die gearseerde gedeelte van die prisma in mm^2 .
- (d) Indien die prisma in die skets uit metaal gegiet word, met elke $1 \text{ cm}^3 = 250 \text{ gram}$, bereken die totale gewig van die prisma in kg.



(a) Volume A

$$= L \times B \times H$$

$$= (120 \text{ mm}) \times (70 \text{ mm}) \times (12 \text{ mm})$$

$$= 100\,800 \text{ mm}^3$$

Volume B

$$= L \times B \times H$$

$$= (120 \text{ mm}) \times (12 \text{ mm}) \times (12 + 125)$$

$$= 197\,280 \text{ mm}^3$$

$\therefore$ Totale volume

$$= 100\,800 + 197\,280 \text{ mm}^3$$

$$= 298\,080 \text{ mm}^3$$

(b) Volume

$$= 298\,080 \div (10)^3 \text{ cm}^3$$

$$= 298,08 \text{ cm}^3$$

$$\begin{aligned} \text{(c) Opp } A &= L \times B \\ &= 120 \text{ mm} \times 70 \text{ mm} \\ &= 8400 \text{ mm}^2 \end{aligned}$$

$$\begin{aligned} \text{Opp } B &= L \times B \\ &= 125 \text{ mm} \times 120 \text{ mm} \\ &= 15000 \text{ mm}^2 \end{aligned}$$

$$\begin{aligned} \therefore \text{Totale opp} &= 8400 + 15000 \\ &= 23400 \text{ mm}^2 \end{aligned}$$

$$\text{(d) } V = 298,08 \text{ cm}^3 \quad [\text{siehe (b)}]$$

$$\begin{aligned} \therefore \text{Gewig} &= 298,08 \times 250 \text{ gram} \\ &= 74520 \text{ gram} \\ &= 74520 \div 1000 \text{ kg} \\ &= 74,52 \text{ kg} \end{aligned}$$