

DNB révisions Grandeurs et Mesures

6^e

17) Aire et Périmètre

interieur
↑
contour

17.1

$$9,1 \text{ cm}^2 = 0,00091 \text{ m}^2$$

m² | dm² | cm² | mm²

$$10,2 \text{ km}^2 = 102 \text{ dam}^2$$

km² | hm² | dam²

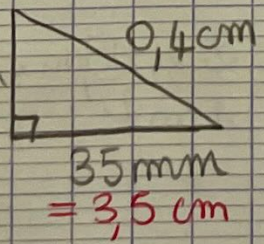
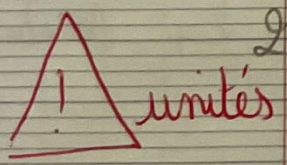
$$189 \text{ dam}^2 = 18900 \text{ m}^2$$

$$143,9 \text{ m}^2 = 0,01439 \text{ km}^2$$

$$102,8 \text{ mm}^2 = 0,0001028 \text{ m}^2$$

$$110,6 \text{ km}^2 = 11060 \text{ dam}^2$$

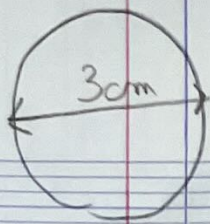
17.2



$$P(\Delta) = 2 \text{ cm} + 0,4 \text{ cm} + 3,5 \text{ cm} = \underline{5,9 \text{ cm}}$$

$$A(\Delta) = b \times h \div 2 = 2 \times 3,5 \div 2 = 3,5 \text{ cm}^2$$

(triangle rect)



$$D = 3 \text{ cm} \text{ donc } R = 1,5 \text{ cm}.$$

$$\begin{aligned} p(\text{Cercle}) &= 2 \times \pi \times R \\ &= 2 \times \pi \times 1,5 \text{ cm} \\ &= 3\pi \text{ cm} \end{aligned}$$

← valeur exacte

$$\approx 9,4 \text{ cm}$$

← valeur approchée au mm près

$$A(\text{Disque}) = \pi R^2$$

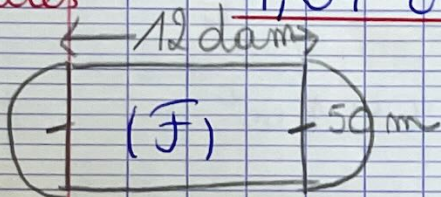
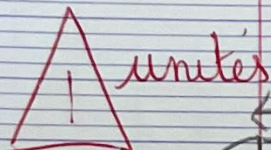
$$= \pi \times 1,5 \text{ cm} \times 1,5 \text{ cm}$$

$$= 2,25\pi \text{ cm}^2$$

← valeur exacte

$$\approx 7,07 \text{ cm}^2$$

← valeur approchée au centième



$$12 \text{ dam}$$

$$50 \text{ m} = 5 \text{ dam}$$

$$R = 2,5 \text{ dam}$$

$$p(F) = 12 \text{ dam} \times 2 + 2 \times \pi \times 2,5 \text{ dam}$$

$$= 24 \text{ dam} + 5\pi \text{ dam}$$

$$\approx 39,71 \text{ dam}$$

← valeur approchée au centième de dam (donc dm près)

$$A(F) = 12 \text{ dam} \times 5 \text{ dam} + \pi \times (2,5 \text{ dam})^2$$

$$= 60 \text{ dam}^2 + 6,25\pi \text{ dam}^2$$

$$\approx 79,63 \text{ dam}^2$$

← v a au centième de dam²

17.3

$$\begin{aligned} A(\text{Bat}) &= 5 \text{ m} \times (15 \text{ m} \times 2) + 2 \times (15 \text{ m} \times 3 \text{ m} \div 2) + 2 \text{ m} \times 3 \text{ m} - 1 \text{ m} \times 2 \text{ m} \div 2 \\ &= 150 \text{ m}^2 + 45 \text{ m}^2 + 6 \text{ m}^2 - 1 \text{ m}^2 \\ &= 200 \text{ m}^2 \end{aligned}$$

km^3	hm^3	dam^3	m^3	dm^3	cm^3	mm^3		
				kL	hL	dL	cL	mL
				1	0	0	0	

19) Volumes → tableau de conversion

19.1

par ♥

$$1 \text{ dm}^3 = \underline{1 \text{ L}}$$

$$1 \text{ m}^3 = 1000 \text{ dm}^3 = \underline{1000 \text{ L}}$$

$$1 \text{ hL} = 100 \text{ L} = 100 \text{ dm}^3 = \underline{100000 \text{ cm}^3}$$

↑
hecto = 100

$$131,2 \text{ L} = 131,2 \text{ dm}^3 = \underline{0,1312 \text{ m}^3}$$

$$35635 \text{ cm}^3 = \underline{0,35635 \text{ dL}}$$

$$7,302 \text{ L} = \underline{0,007302 \text{ m}^3 \text{ ou hL}}$$

19.2

$$\begin{aligned} V(1) &= L \times l \times h \quad \text{formule} \\ &= 6 \text{ cm} \times 4 \text{ cm} \times 5 \text{ cm} \\ &= \underline{120 \text{ cm}^3} \end{aligned}$$

$$\begin{aligned} V(2) &= A_{\text{base}} \times h \div 3 \quad \text{formule} \\ &= 5 \text{ cm} \times 4 \text{ cm} \times 6 \text{ cm} \div 3 \\ &= \underline{40 \text{ cm}^3} \end{aligned}$$

19.3

$$\begin{aligned} V(\text{boule}) &= \frac{4}{3} \pi \times R^3 \quad \text{formule} \\ &= \frac{4}{3} \times \pi \times (8 \text{ cm})^3 \end{aligned}$$

$$= \frac{4}{3} \times \pi \times 512 \text{ cm}^3$$

$$= \frac{2048 \pi \text{ cm}^3}{3} \leftarrow \text{v. exacte}$$

$$\approx \underline{2145 \text{ cm}^3} \leftarrow \text{va à l'unité donc au cm}^3$$

ex 19.4

$$V(\text{cylindre}) = \pi \times R^2 \times h \quad \text{formule}$$

Aire base

$$= \pi \times (6\text{cm})^2 \times 8\text{cm}$$

$$= \pi \times 288\text{cm}^3$$

$$= 288\pi\text{cm}^3$$

$$\approx \underline{905\text{cm}^3}$$

← V. exacte

← V. a au cm^3
donc à l'unité

$$V(\hat{\text{cône}}) = \pi \times R^2 \times h \div 3$$

$$= \pi \times (6\text{cm})^2 \times 8\text{cm} \div 3$$

$$= \underline{96\pi\text{cm}^3}$$

← V. exacte

$$\approx \underline{302\text{cm}^3}$$

← V. approchée au cm^3

ex 19.5

$$V(\hat{\text{cône}}) = \pi \times R^2 \times h \div 3$$

$$= \pi \times (4\text{cm})^2 \times 7\text{cm} \div 3$$

$$= \frac{112\pi\text{cm}^3}{3}$$

$$\approx \underline{117\text{cm}^3}$$

soit 0,117 L

soit 11,7 cl

On peut verser au max 11,7 cl de
boisson.