

1 Grootheden en eenheden

Uitwerkingen

Opgave 1.1

A in m² volgens SI

Opgave 1.2

Φ_V in m³/s

Φ_m in L/min of L/h of ml/s, enz. zijn ook toegestaan

Opgave 1.3

$1,300 \times 10^3$; $1,3 \times 10^{-3}$; $9,5 \times 10^{11}$; $2,45 \times 10^{-8}$
 $2,300 \times 10^3$; $1,88 \times 10^{20}$; $1,30 \times 10^{-2}$

Opgave 1.4

$1,2 \times 10^3$ V; $1,354 \times 10^{-3}$ g; $3,2 \times 10^{-9}$ m; 26×10^{-12} m = $2,6 \times 10^{-11}$ m
 $2,3 \times 10^{-9}$ s; 23×10^6 Hz = $2,3 \times 10^7$ Hz

Opgave 1.5

$140 \times 10^{-12} = 1,40 \times 10^2 \times 10^{-12} = 1,40 \times 10^{10}$
 $4,6 \times 10^{12} = 460 \times 10^{-2} \times 10^{12} = 460 \times 10^{10}$

Opgave 1.6

$41600000 = 416 \times 10^5 = 4,16 \times 10^7$

Opgave 1.7

m³ en s

L en h

Opgave 1.8

$44,6$ km = $44,6 \times 10 = 246$ hm
 $3,45$ cm² = $3,45 \times 100 = 345$ mm²
 $0,452$ m² = $0,452 \times 100 \times 100 = 0,452 \times 10^4 = 4,52 \times 10^3$ cm²
 56 μm = $56 \times 0,1 \times 0,1 \times 0,1 = 56 \times 10^{-3} = 5,6 \times 10^{-2}$ mm

Opgave 1.9

$1,625$ m³ = $1,625 \times 1000 = 1625$ dm³
 $1,50$ L = $1,50 \times 1000 = 1500$ mL
 2300 mm³ = $2300 \times 0,001 \times 0,001 \times 0,001 = 2300 \times 10^{-9} \text{ m}^3 = 2,300 \times 10^{-6} \text{ m}^3$
 $45,0$ cL = $45 \times 10 = 500$ mL (mL – cL – dL – L – daL – hL – kL)
 $2,75$ dL = $2,75 \times 10 \text{ mL} = 275 \text{ mL} = 275 \text{ cm}^3$

Opgave 1.10

$7800 \frac{\text{kg}}{\text{m}^3} = 7800 \times 10^3 \frac{\text{g}}{\text{m}^3} = 7800 \times 10^3 / 10^6 \frac{\text{g}}{\text{cm}^3} = 7,800 \frac{\text{g}}{\text{cm}^3}$
 $4,18 \frac{\text{kJ}}{\text{kg}} = 4,18 \times 10^3 \frac{\text{J}}{\text{kg}} = 4,2 \times 10^3 / 10^3 \frac{\text{J}}{\text{g}} = 4,2 \frac{\text{J}}{\text{g}}$
1 $1,54 \frac{\text{g}}{\text{m}^3} = 1,54 \times 10^{-3} \frac{\text{kg}}{\text{m}^3} = 1,54 \times 10^{-3} / 10^3 \frac{\text{kg}}{\text{L}} = 1,54 \times 10^{-6} \frac{\text{kg}}{\text{L}}$
 $1,25 \frac{\text{kg}}{\text{L}} = 1,25 \times 1000 \frac{\text{kg}}{\text{m}^3} = 1,25 \times 10^3 \frac{\text{kg}}{\text{m}^3}$