

1.02

a) $3560 \text{ m} = 3,560 \cdot 10^3 \text{ m} = 3,560 \text{ km}$

$1,49 \cdot 10^{11} \text{ m} = 0,149 \cdot 10^{12} \text{ m} = 149 \cdot 10^9 \text{ m} = 149 \text{ Gm}$

Finndu den nærmest
dekadiske prefixið

$2,0 \cdot 10^{-9} \text{ s} = 2,0 \text{ ns}$

$0,000045 \text{ g} = 45 \mu\text{g}$

1.02

$$b) 630 \text{ nm} = 6,30 \cdot 10^2 \cdot 10^{-9} \text{ m} = 6,30 \cdot 10^{-7} \text{ m}$$

$$0,218 \text{ mm} = 0,218 \cdot 10^{-3} \text{ m} = 2,18 \cdot 10^{-1} \cdot 10^{-3} \text{ m} = 2,18 \cdot 10^{-4} \text{ m}$$

$$4670 \text{ tonn} = 4670 \cdot 10^3 \text{ kg} = 4,670 \cdot 10^3 \cdot 10^3 \text{ kg} = 4,670 \cdot 10^6 \text{ kg}$$

$$3,45 \text{ ps} = 3,45 \cdot 10^{-6} \text{ s}$$

1000 kg
si-enhet

1.03

$$a) 108 \frac{m}{s} = 108 \frac{\cdot 10^{-3} \text{ km}}{\frac{1}{3600} \text{ h}} = \frac{0,108 \text{ km}}{\frac{1}{3600} \text{ h}} = \frac{3600 \cdot 0,108 \text{ km}}{h}$$

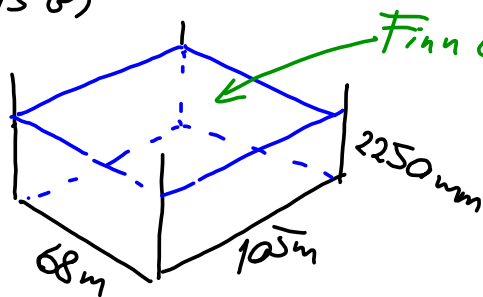
↑ gjøres om til km/h

$$1 \text{ h} = 60 \text{ min} = 60 \cdot 60 \text{ s} = 3600 \text{ s}$$

$$s = \frac{h}{3600}$$

$$\frac{3,60 \cdot 10^3 \cdot 0,108 \text{ km}}{h} = \frac{3,60 \cdot 10^3 \cdot 108 \cdot 10^{-3} \text{ km}}{h} = 3,60 \cdot 108 \frac{\text{km}}{h} = 389 \frac{\text{km}}{h}$$

1.03 G)



2250mm



$$V = 68[m] \cdot 105[m] \cdot 2,25[m]$$

$$= 16065 \text{ m}^3$$

$$V = \underline{1,6 \cdot 10^4 \text{ m}^3} = 16,1 \text{ km}^3$$

$$1000 \text{ ltr} = 1,0 \text{ m}^3$$

$$10^3 \text{ ltr} = 1,0 \text{ m}^3$$

$$V = 1,6 \cdot 10^4 \cdot 10^3 \text{ ltr} = 1,6 \cdot 10^7 \text{ ltr}$$

1.07

a) $v = \frac{s}{t} = \frac{25 \text{ m}}{4,0 \text{ s}} = 6,25 \text{ m/s} = 63 \text{ m/s}$

b) $v = 7,0 \text{ m/s}$ $s = 35 \text{ km}$

$t = \frac{s}{v} = \frac{35 \cdot 10^3 \text{ m}}{7,0 \text{ m/s}} = \underline{\underline{5,0 \cdot 10^3 \text{ s}}}$

$\frac{\text{m}}{\text{m/s}} = \frac{1}{\frac{1}{\text{s}}} = \text{s}$

$1 \text{ h} = 3600 \text{ s}$

$5000 \text{ s} - 3600 \text{ s} = 1400 \text{ s}$

↑
1 h

$1400 - 1380 = 20 \text{ s}$

$23 \cdot 60 = 1380$

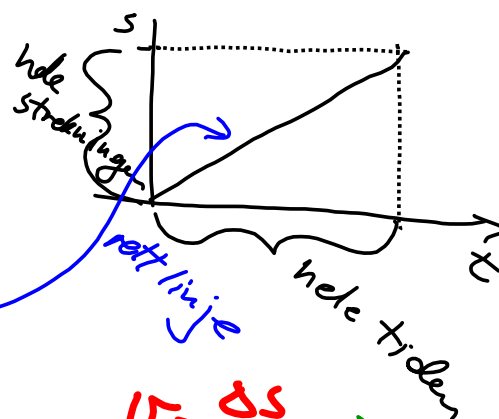
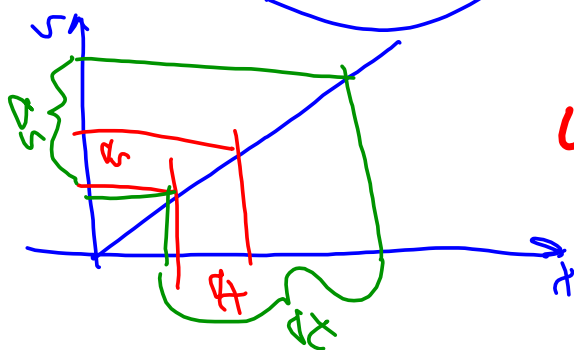
↑
min

$1 \text{ h } 23 \text{ min } 20 \text{ s}$

1.08 Gjennomsnittsfart : \bar{v}

$$\bar{v} = \frac{\text{hele strekningen}}{\text{hele tiden}}$$

Konstant fart



$$\bar{v} = \frac{\Delta s}{\Delta t} = \frac{\Delta s}{\Delta t}$$


1.09

$$v_A = \frac{\Delta s}{\Delta t} = \frac{6,0 \text{ m}}{10,0 \text{ s}} = 0,6 \text{ m/s}$$

$$v_B = \frac{\Delta s}{\Delta t} = \frac{0,0 \text{ m}}{10,0 \text{ s}} = 0,0 \text{ m/s}$$

$$v_C = \frac{\Delta s}{\Delta t} = \frac{16,0 - 6,0}{25,0 - 10,0} = \frac{10,0 \text{ m}}{15,0 \text{ s}} = 2,0 \text{ m/s}$$

1,15



radar signal

$t = 80,01 \mu s$

Lyshastighet

$v = c = 3,00 \cdot 10^8 \text{ m/s}$

→ hastighet
↑ Lyshastighet
= konstant
(derfor c brukes)

$s = v \cdot t$

↑
fram og tilbake

$s = \frac{vt}{2}$

↑
avstanden fra
fly til sky