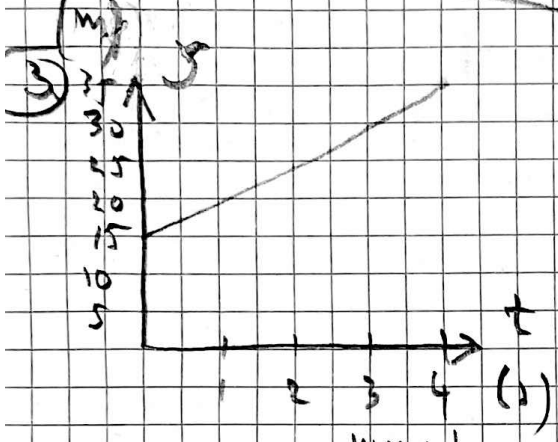
a acceleration $\left[\frac{m}{s^2}\right]$

s sträcka $[m]$

t tid $[s]$

v hastighet $\left[\frac{m}{s}\right]$

3.



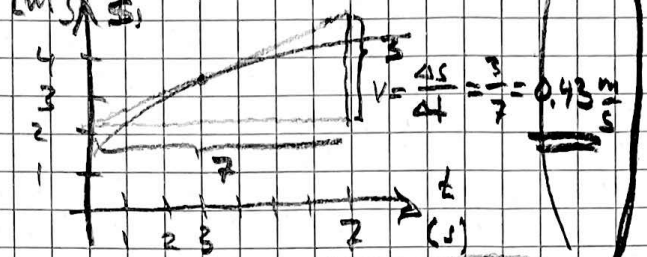
momentan

a) beräkna hastigheten då $t = 2{,}0$ s

$v = \frac{\Delta s}{\Delta t} = \frac{20}{4} = 5 \frac{m}{s}$

5.

momentan hastigheten vid $t = 3{,}0$ s



$v = \frac{\Delta s}{\Delta t} = \frac{3}{7} = 0{,}43 \frac{m}{s}$

1.

hastighet?

200 m

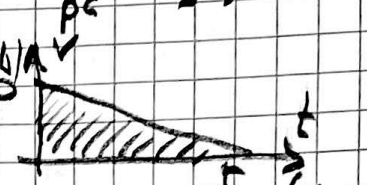
5 s

$v = \frac{s}{t} = \frac{200}{5} = \frac{40 \text{ m}}{1 \text{ s}} = \frac{40 \text{ m} \cdot 3600 \text{ s}}{360 \text{ s}} = 144 \frac{km}{h}$

2.

10 m/s → 0 m/s 5 s

a) v-t-diagram



b) sträcka

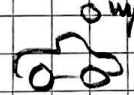
$v_{medel} \cdot t$ eller area

$\frac{10 \cdot 5}{2} = 25$ m

c) acc.?

$a = \frac{\Delta v}{\Delta t} = \frac{10}{5} = 2 \frac{m}{s^2}$

4.

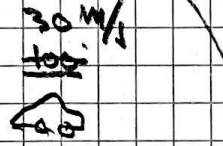


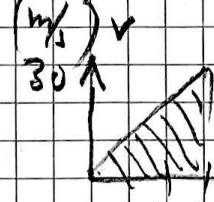
acc 2 m/s^2

a) hur lång tid?

b) hur lång sträcka?

c) rita s-t





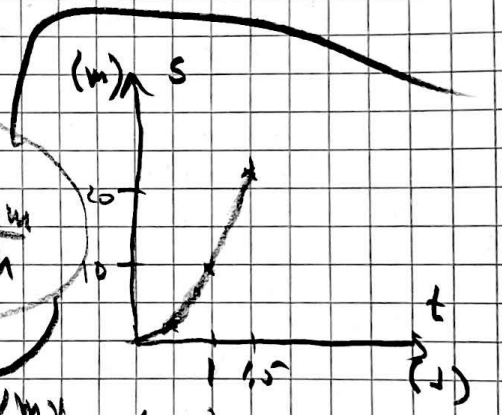
area sträcka

$\frac{30 \cdot 1{,}5}{2} = 22{,}5$ m

eller

$s = v_0 t + \frac{at^2}{2} = 0 \cdot 1{,}5 + \frac{20 \cdot 1{,}5^2}{2} = 22{,}5$ m

4.



t (s)	v (m/s)	s (m)
0	0	0
0,5	10	$\frac{10 \cdot 0{,}5}{2} = 2{,}5$
1	20	$\frac{10+20}{2} \cdot 1 = 15$
1,5	30	$10 + \frac{30+20}{2} \cdot 0{,}5 = 12{,}5$ eller $\frac{30}{2} \cdot 1{,}5 =$