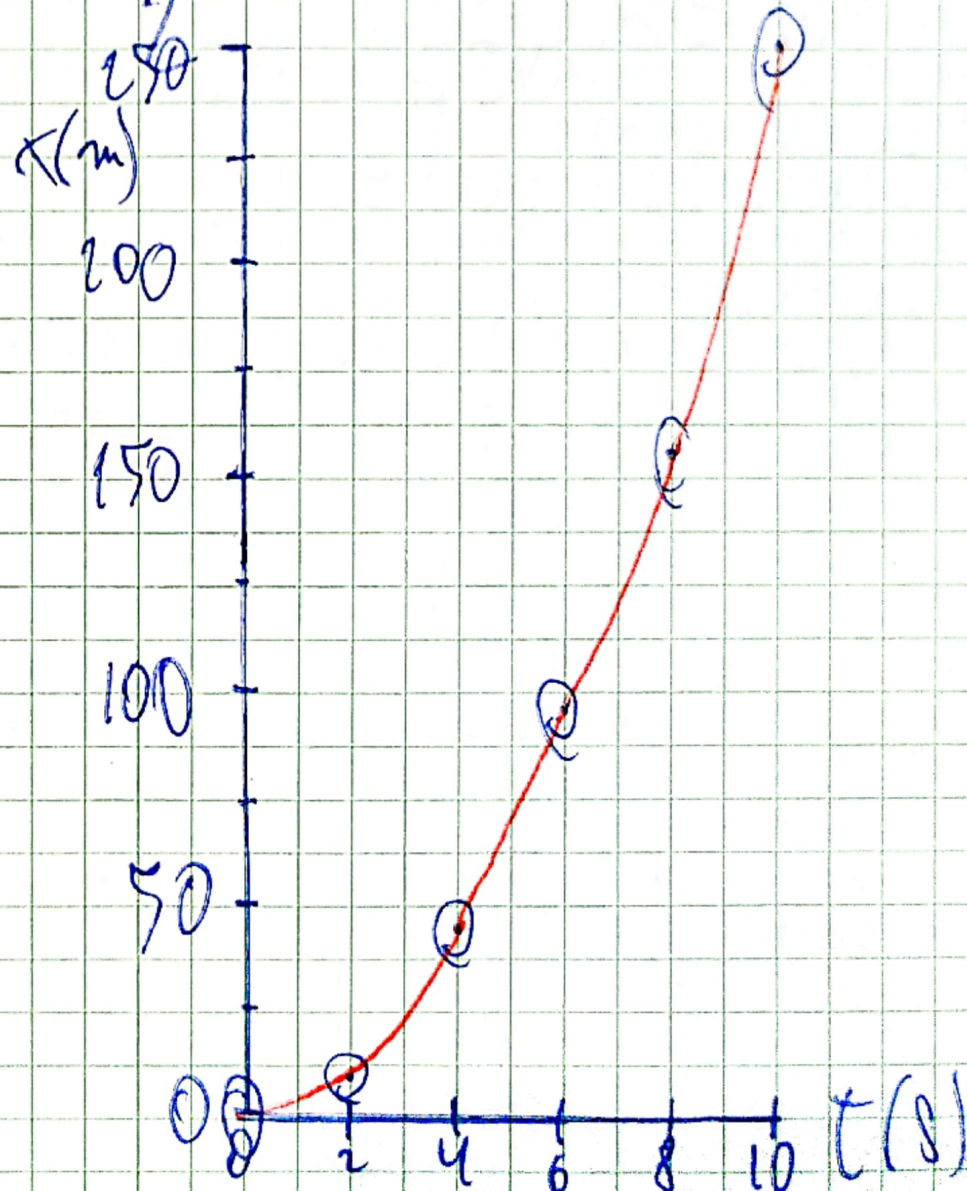


a)  $x = x_0 + v_0 t + \frac{1}{2} a t^2$  MRUA

~~$x = 0 + 0 \cdot t + \frac{1}{2} \cdot 5 t^2 = 0.5 \cdot 5 t^2$~~

$x = 2.5 t^2$

$t$ (s)	$x$ (m)
0	0
2	10
4	40
6	90
8	160
10	250

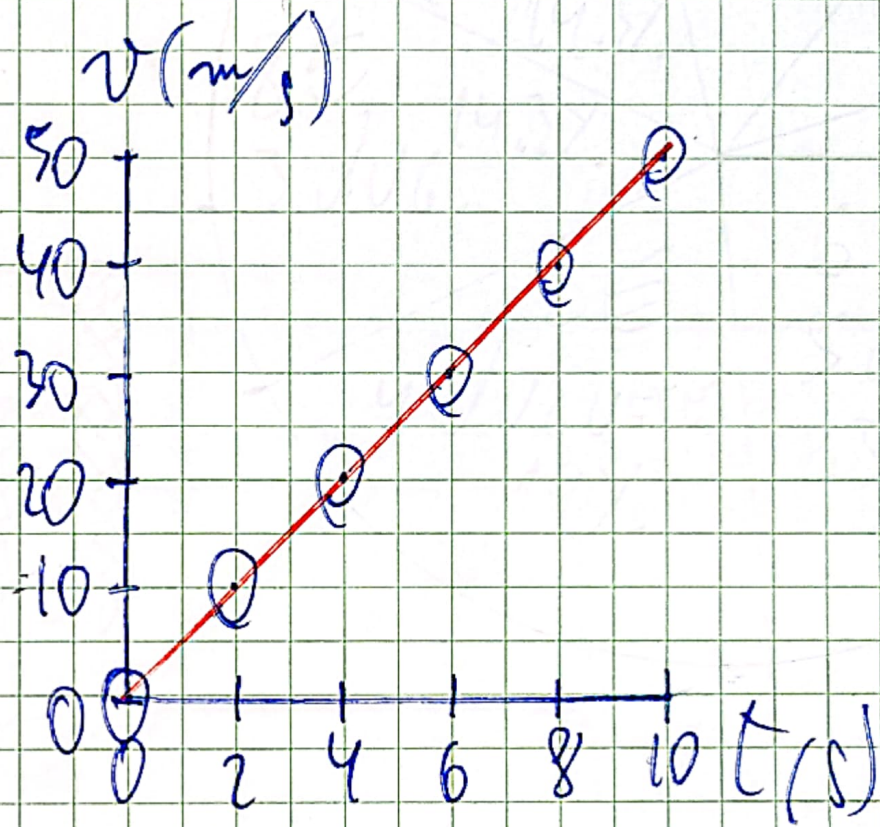


$$v = v_0 + at$$

$$v = 0 + 5 \cdot t$$

$$v = 5t$$

$t(s)$	$v(m/s)$
0	0
2	10
4	20
6	30
8	40
10	50

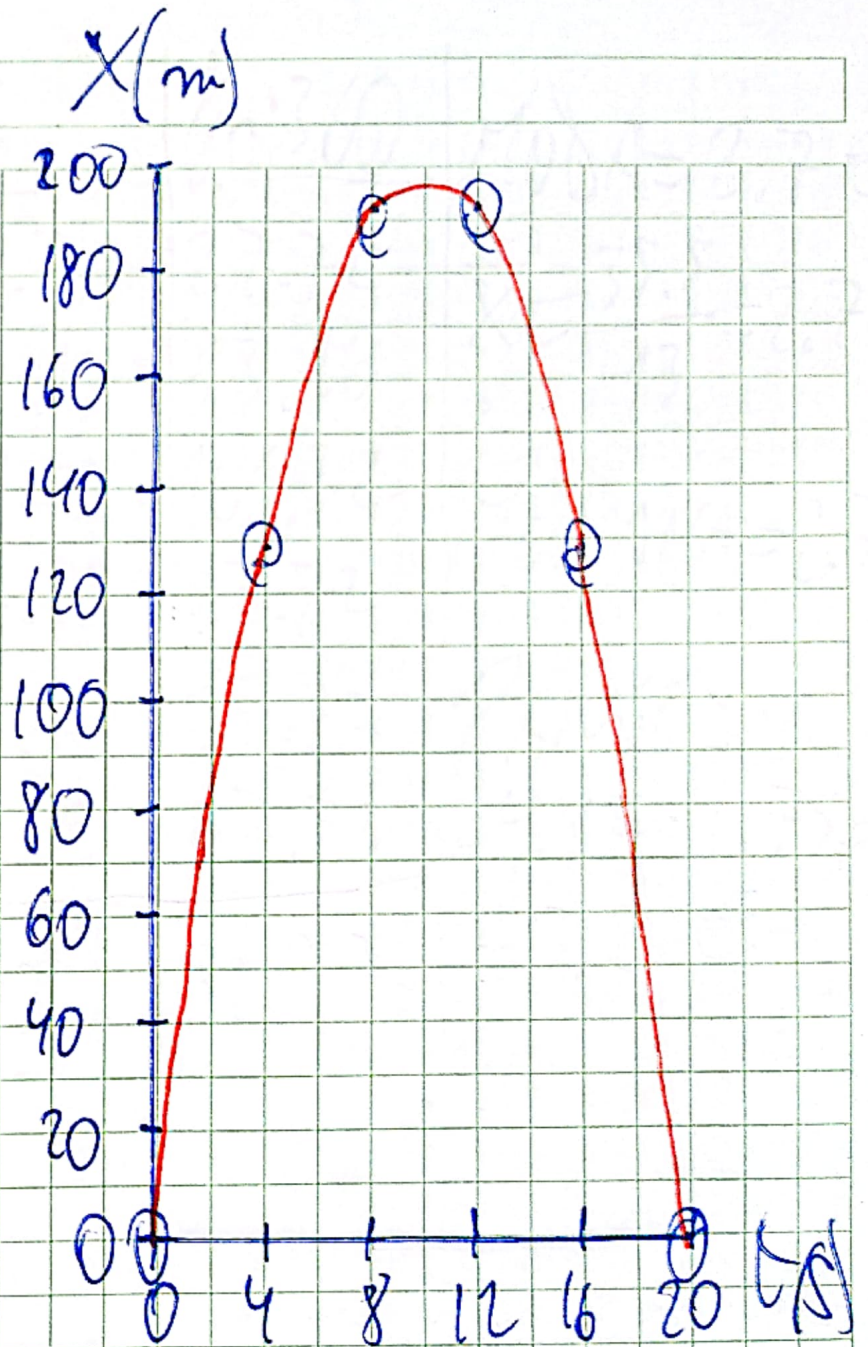


$$b) x = x_0 + v_0 t + \frac{1}{2} a t^2$$

$$x = 0 + 40t + \frac{1}{2}(-4)t^2$$

$$x = 40t - 2t^2$$

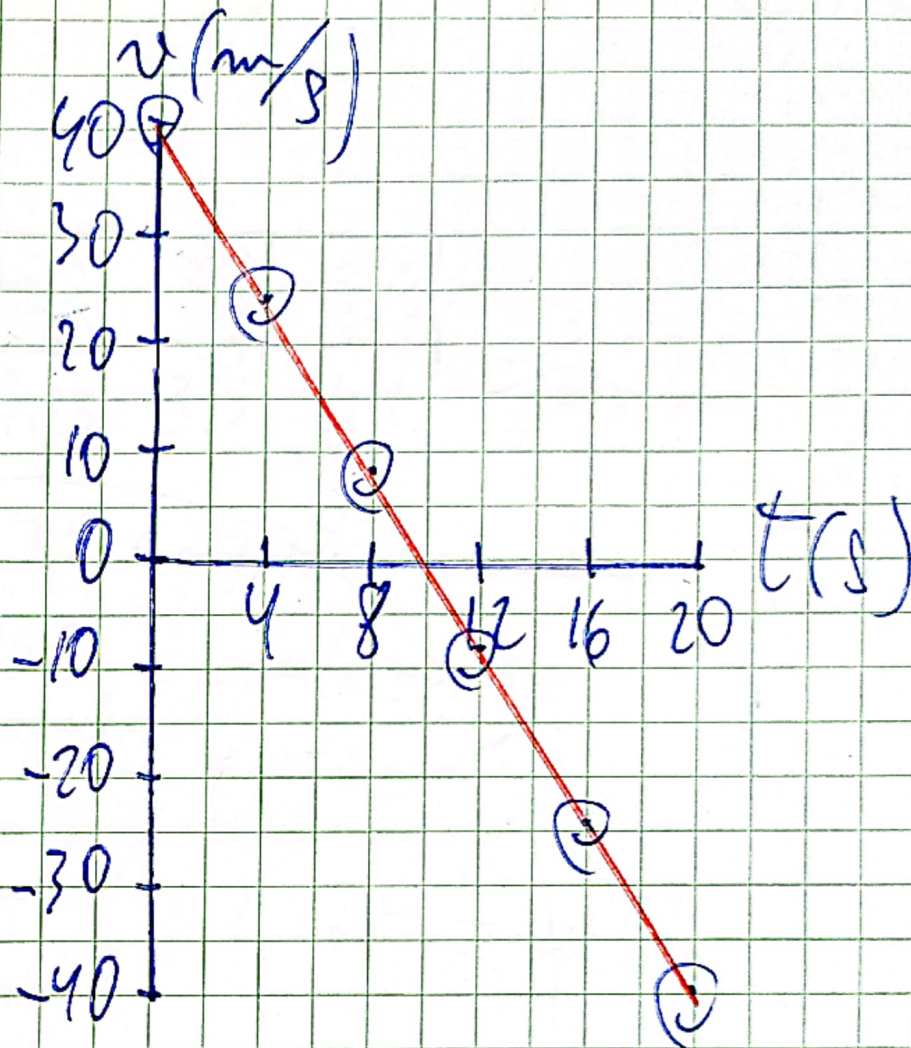
$t$ (s)	$x$ (m)
0	0
4	128
8	192
12	192
16	128
20	0



$$v = v_0 + at$$

$$v = 40 - 4 \cdot t$$

$t$ (s)	$v$ (m/s)
0	40
4	24
8	8
12	-8
16	-24
20	-40

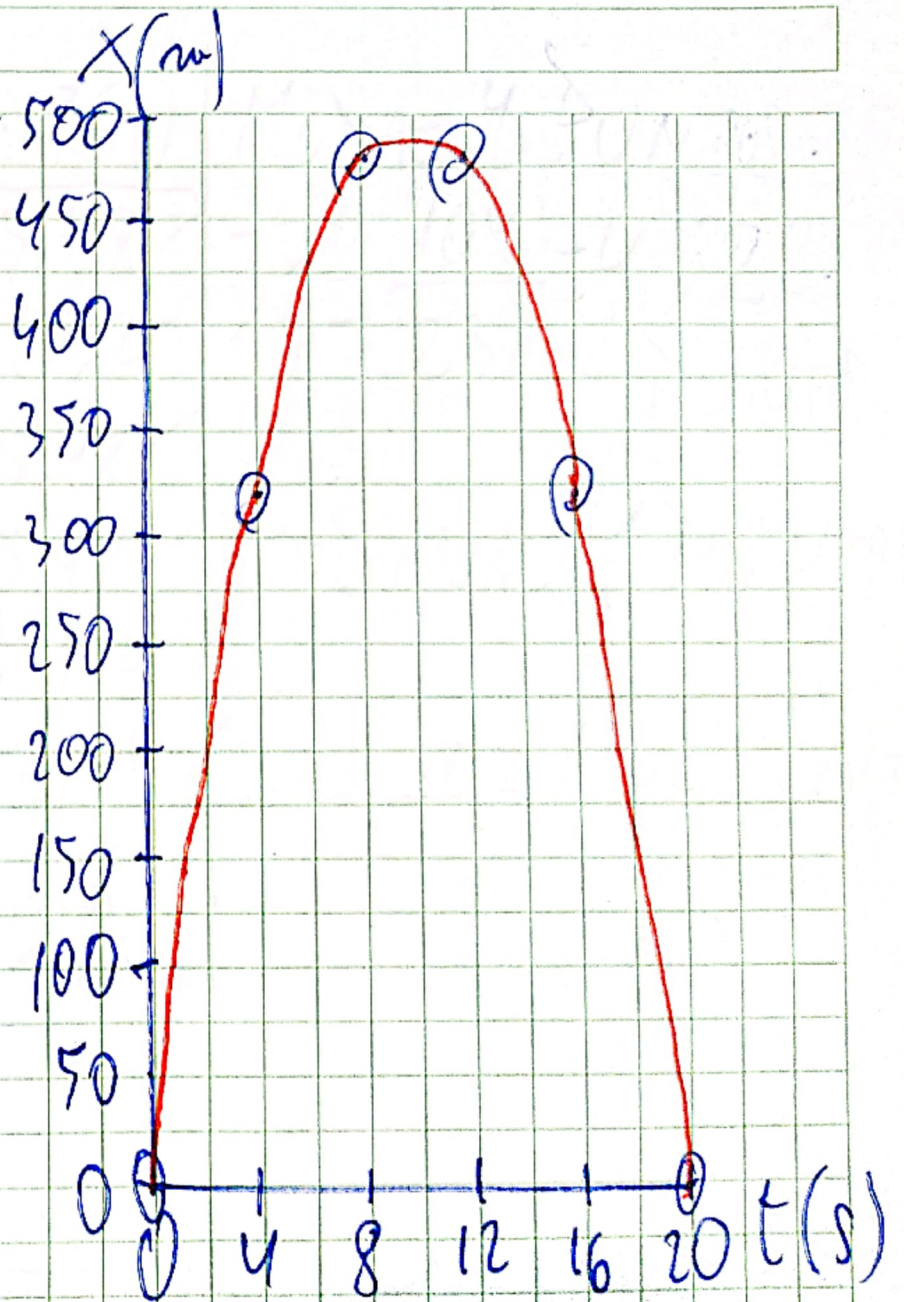


$$d) x = x_0 + v_0 t + \frac{1}{2} a t^2$$

$$x = 0 + 100t + \frac{1}{2}(-10)t^2$$

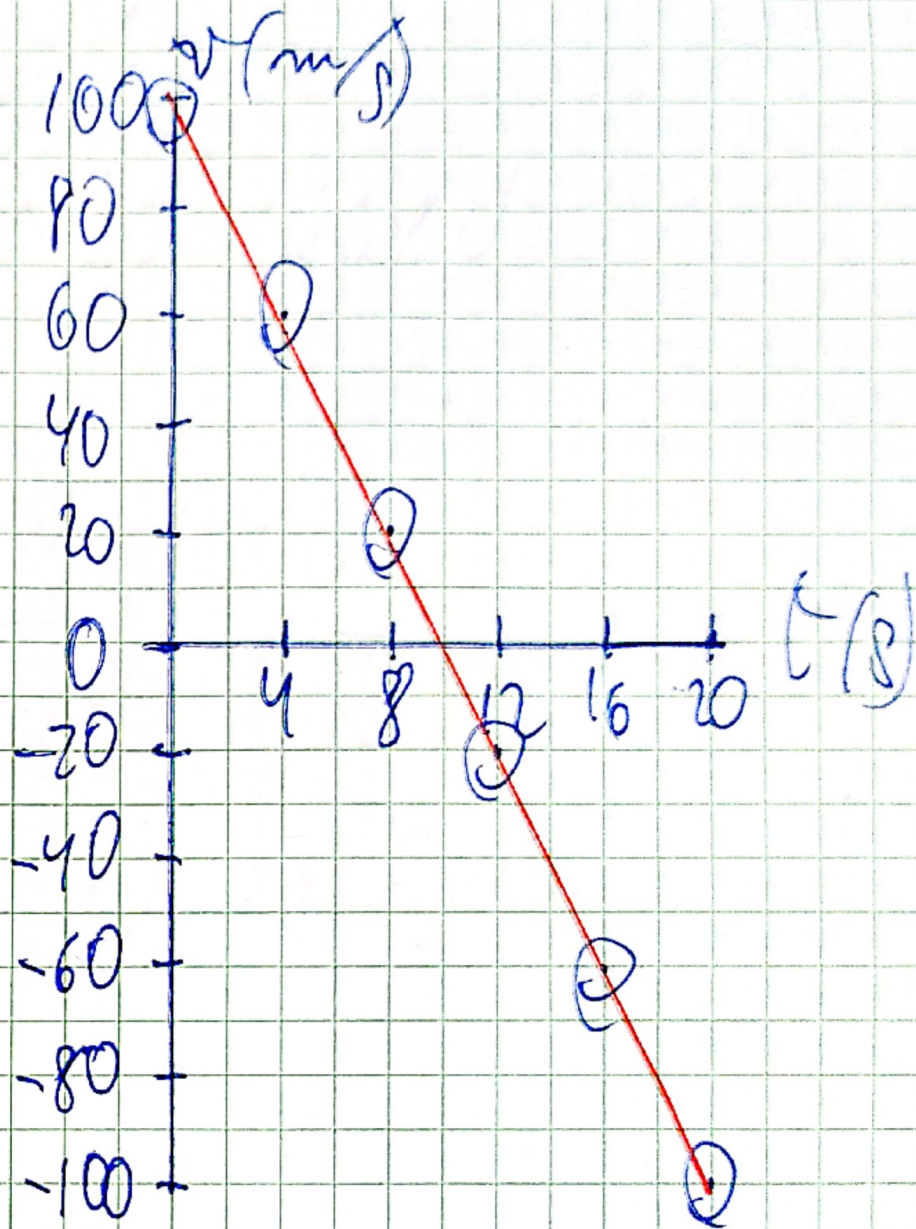
$$x = 100t - 5t^2$$

$t(s)$	$x(m)$
0	0
4	320
8	480
12	480
16	320
20	0



$$v = v_0 + at$$
$$v = 100 - 10t$$

$t$ (s)	$v$ (m/s)
0	100
4	60
8	20
12	-20
16	-60
20	-100



$$d) x = x_0 + v_0 t + \frac{1}{2} a t^2$$

$$x = 0 + 250t + \frac{1}{2} (-10) t^2$$

$$x = 250t - 5t^2$$

t(s)	x(m)
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0	0
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20	3000
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40	2000
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60	-3000
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80	-12000
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100	-25000
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