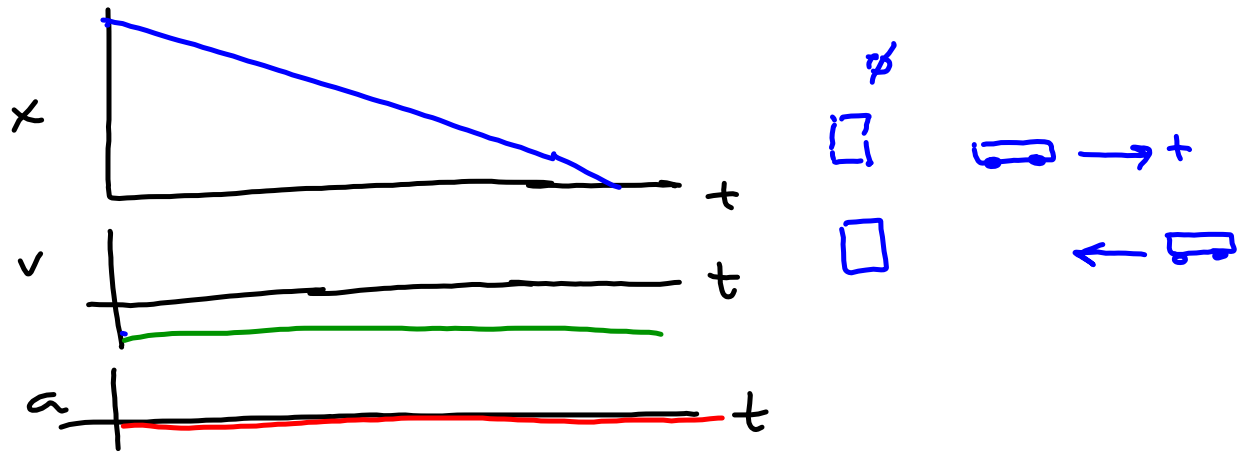
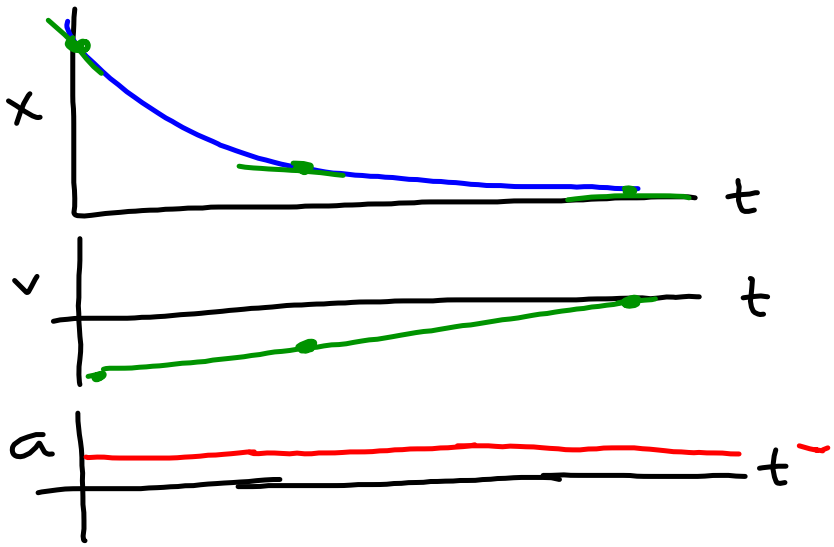
STACKS OF GRAPHS

- Toward the sensor → CV



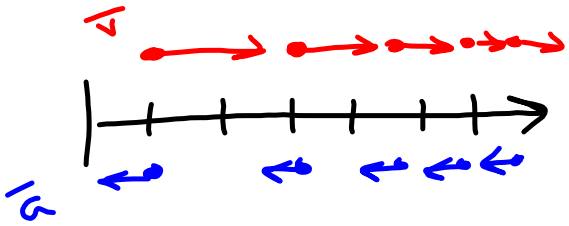

• Speeding up toward sensor
x
t
v
t
a
t

- Slowing down, toward sensor



2A.3 Level 2 #1

Ex.



East → +

$a = -0.75\ m/s^2$

$v_i = +11\ m/s$

$v_f = +4\ m/s$

$t = ?$

$$v_f = v_i + at$$

$$t = \frac{v_f - v_i}{a}$$

$$= \frac{4\ m/s - 11\ m/s}{-0.75\ m/s^2}$$

$$= 9.33\ s$$

For each problem:

- Motion map with $\bar{v}$ and $\bar{a}$
- Variables with amounts
- Equation
- Answer with units

Variable	Symbol	unit
displacement	$\Delta \bar{x}$	m
time	t	s
velocity	$\bar{v}_f, \bar{v}_i, \bar{v}_{avg}$	m/s
acceleration	$\bar{a}$	m/s^2

$$\bar{v} = \frac{x_f - x_i}{t_f - t_i}$$ $x \rightarrow$ position

$$\bar{v}_{avg} = \frac{\text{total displacement}}{\text{total time}}$$

1) $t = 6.5\ h$

$\bar{v}_{avg} = 95\ km/h$ west

$\Delta \bar{x} = ?$

$$\Delta x = v_{avg}\, t$$

$$\Delta x = (95\ km/h)(6.5\ h)$$

$$\Delta \bar{x} = 617.5\ km \text{ west}$$