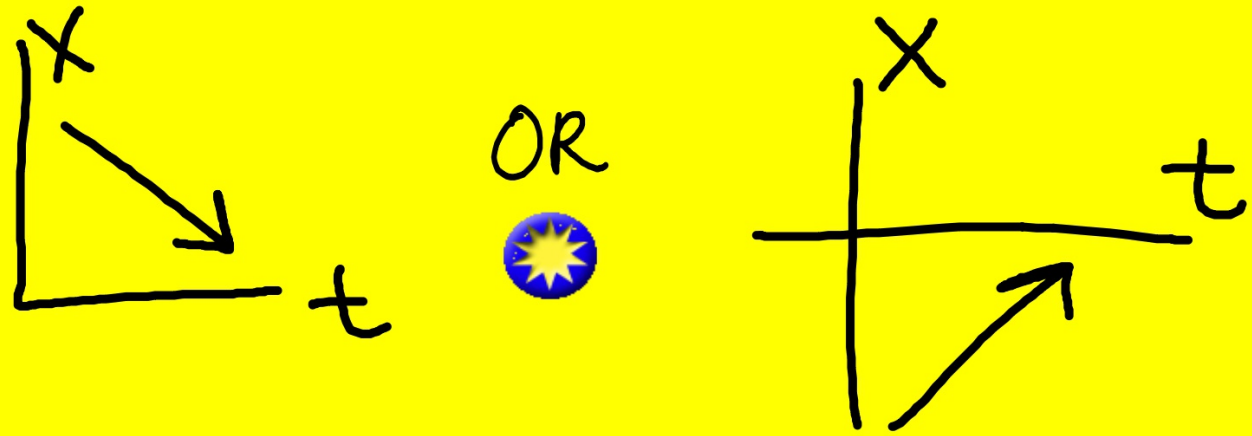
X vs. T	V vs. T	Accel	TBD	TBD
10	10	10	10	10
20	20	20	20	20
30	30	30	30	30
40	40	40	40	40
50	50	50	50	50
60	60	60	60	60

Question:

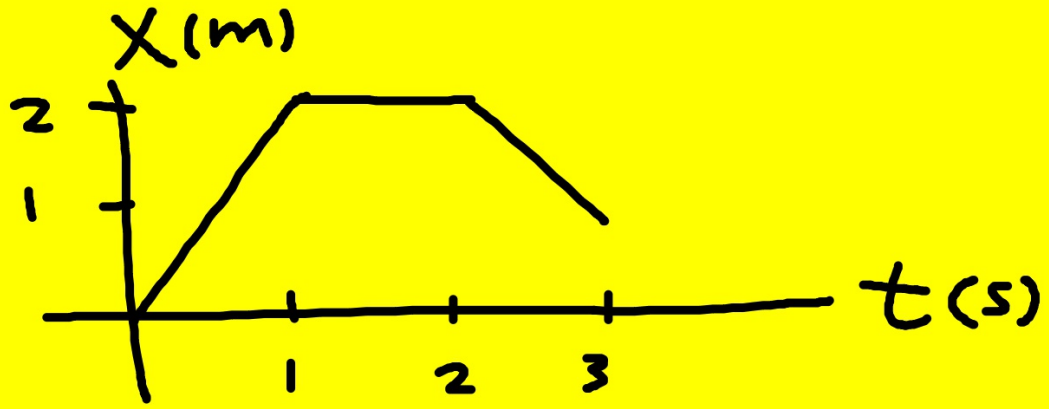
Draw an x vs. t graph for an object moving towards the origin with a constant velocity.

The correct answer is:



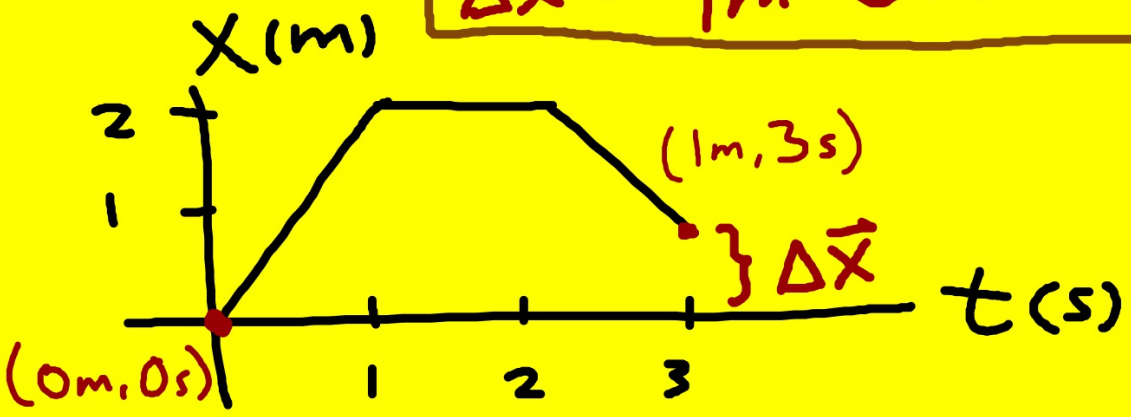
Question:

What is $\Delta\vec{x}$ from 0s to 3s?



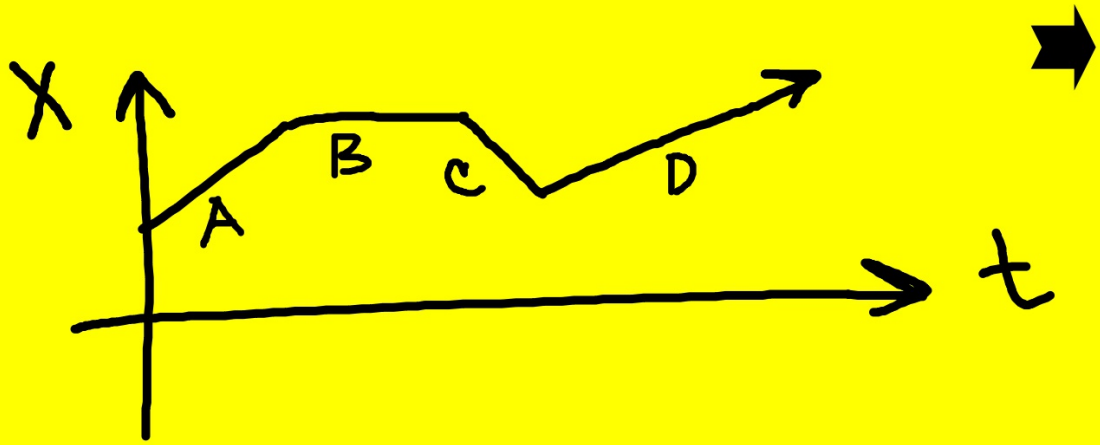
The correct answer is:

$\Delta\vec{x} = 1m - 0m = +1m$

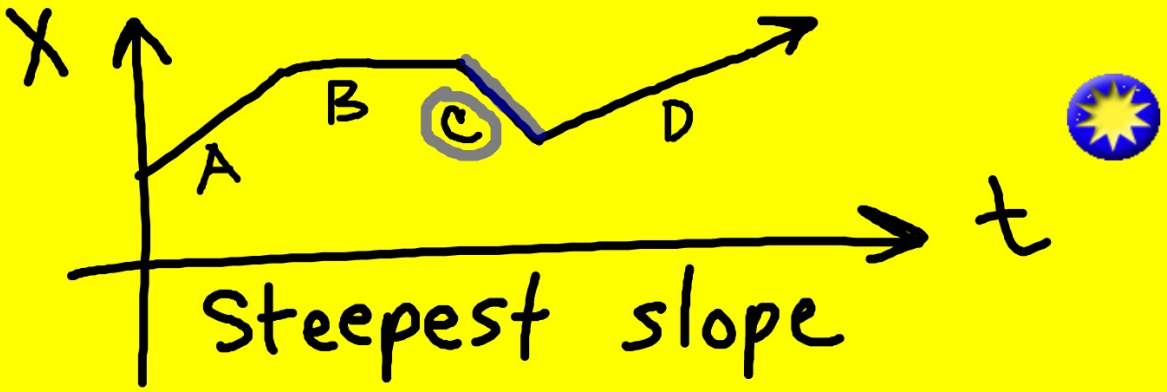


Question:

When does the object move the fastest?



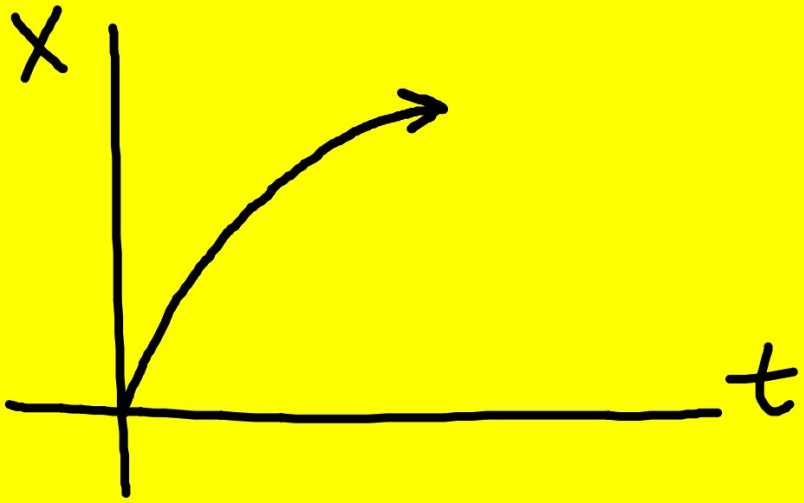
The correct answer is:



Question:

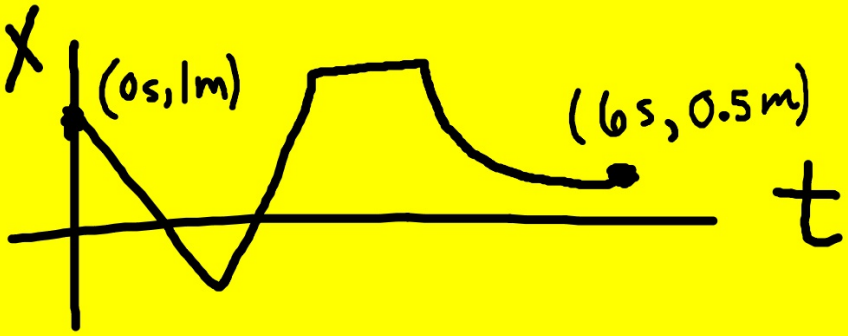
Draw an x vs. t graph for an object moving away from the origin and slowing down.

The correct answer is:



Question:

Find the average velocity of the motion:



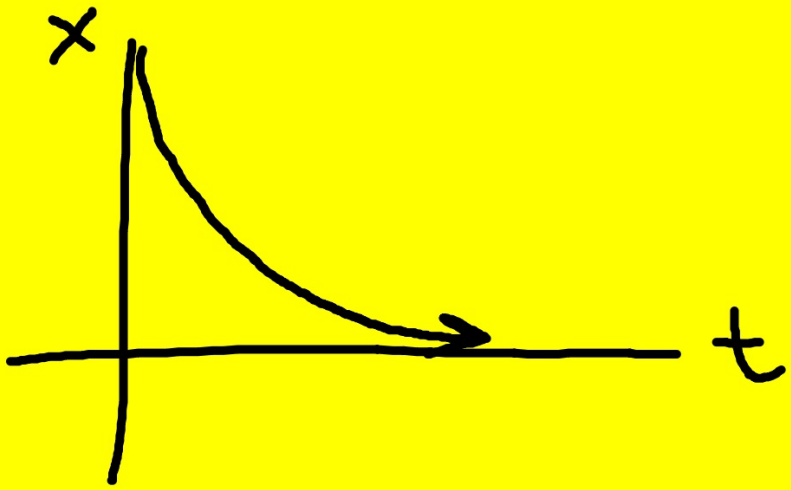
The correct answer is:

$$\vec{V} = \frac{\Delta \vec{x}}{\Delta t} = \frac{-0.5\text{m}}{6\text{s}} = -0.083 \frac{\text{m}}{\text{s}}$$

Question:

You run towards the motion sensor and slide to a stop. Draw the x vs. t graph

The correct answer is:



Question:

What is the difference between Speed and Velocity

The correct answer is:

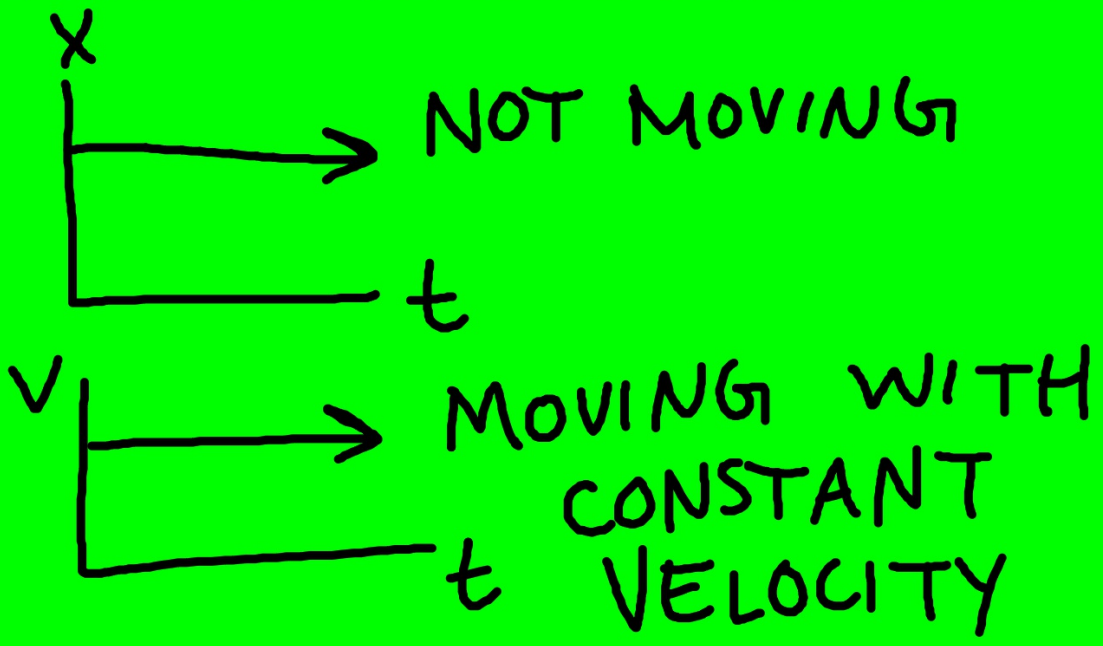
Speed (scalar) is how fast.

±Velocity (vector) is how fast and which direction

Question:

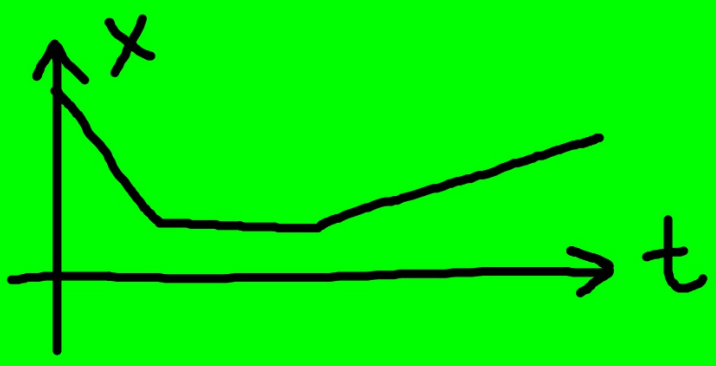
What is the difference between a flat line on a velocity graph & a flat line on a position graph?

The correct answer is:

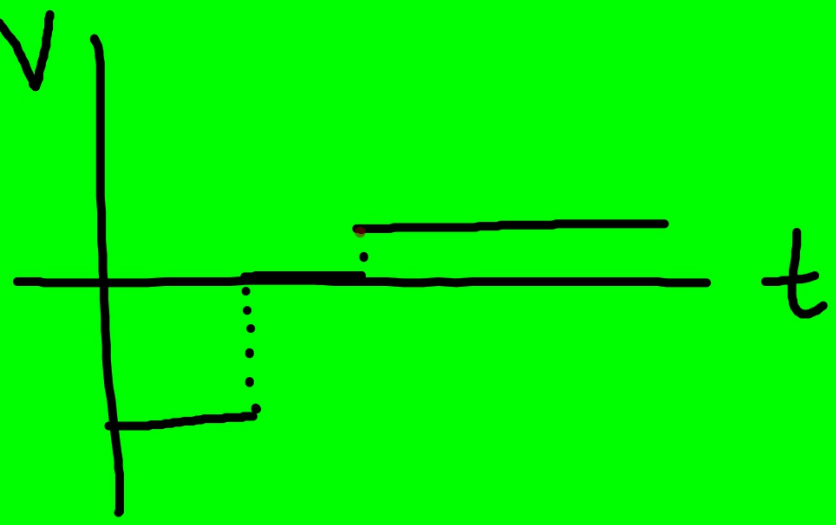


Question:

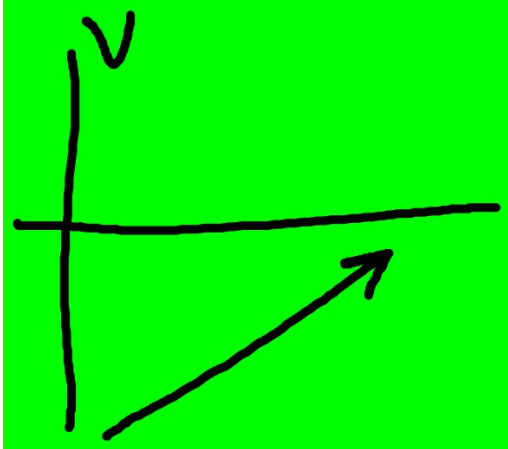
Sketch the velocity graph that corresponds to:



The correct answer is:



Question:



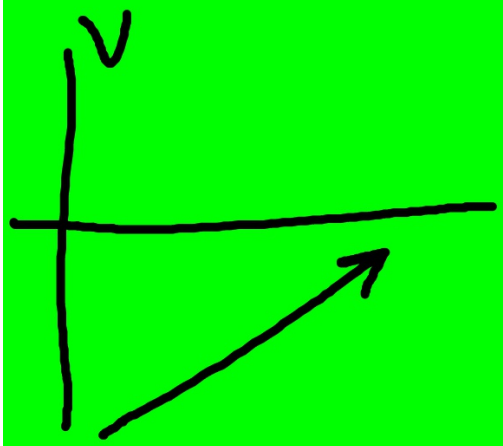
CHOOSE

positive / negative

getting faster / getting slower

positive acceleration / negative acceleration

The correct answer is:



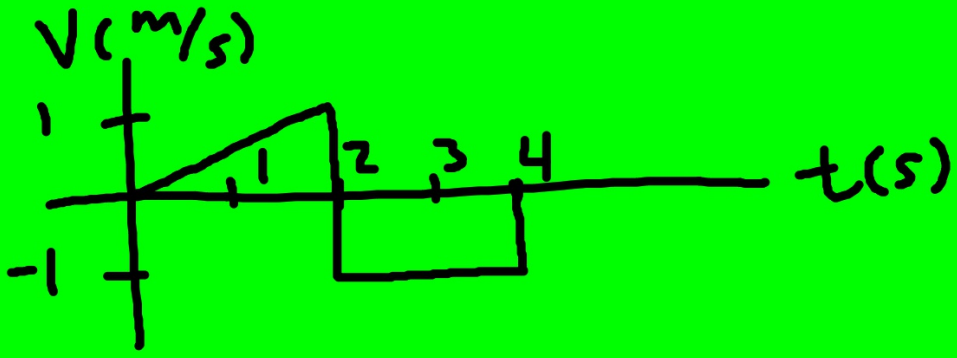
positive / negative

getting faster / getting slower

positive acceleration / negative acceleration

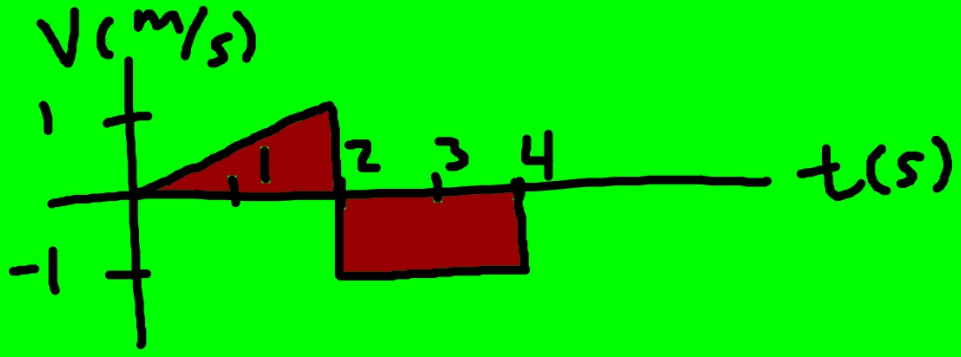
Question:

Estimate the object's displacement:



The correct answer is:

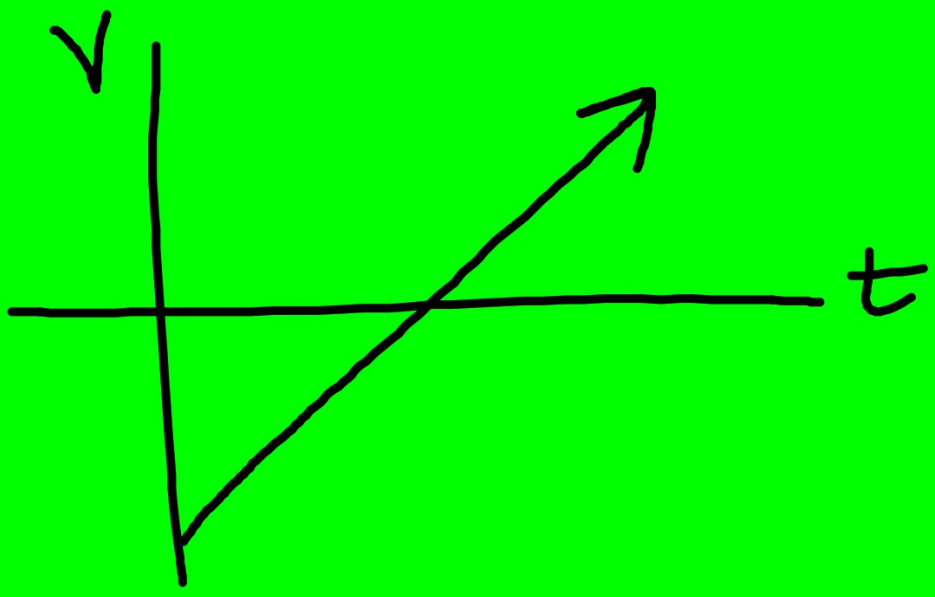
$$\Delta\vec{x} = \frac{1}{2}\left(1\frac{m}{s}\right)(2s) - \left(1\frac{m}{s}\right)(2s) = -1\,m$$



Question

Draw a v vs. t graph for an object moving South, slowing down, stopping/turning, and moving North

The correct answer is:



Question:

Acceleration can be found by taking the slope of a _____ graph.

The correct answer is:

Acceleration can be found by taking the slope of a VELOCITY graph.

Question:

What do the symbols mean and what are their units?

$$\vec{a} = \frac{\vec{V}_f - \vec{V}_i}{\Delta t}$$

The correct answer is:

$\vec{a}$: acceleration $\frac{m}{s^2}$

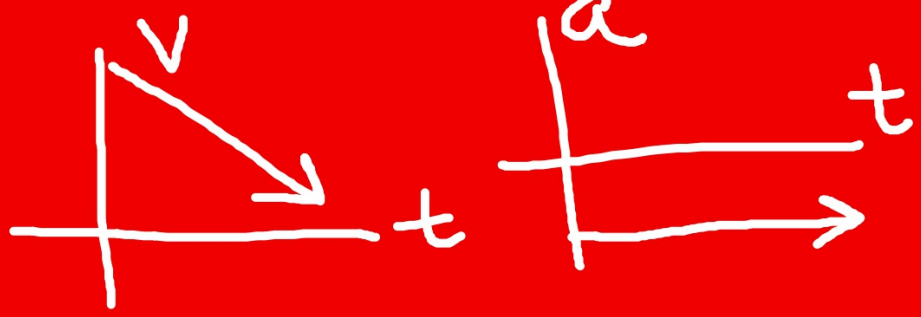
$\vec{V}_i$: initial velocity $\frac{m}{s}$

$\vec{V}_f$: final velocity $\frac{m}{s}$

Δt: elapsed time s

Question:

Describe how the object is moving based on it's graphs:



The correct answer is:

Moving to the right (+ direction) and slowing down

Question:

What are 3 ways to accelerate?

The correct answer is:

1. go faster / speed up
2. go slower / slow down
3. Change direction

Question:

Kelly's car can accelate from 0 $\frac{m}{s}$ to 25 $\frac{m}{s}$ in 15s. What is the car's acceleration?

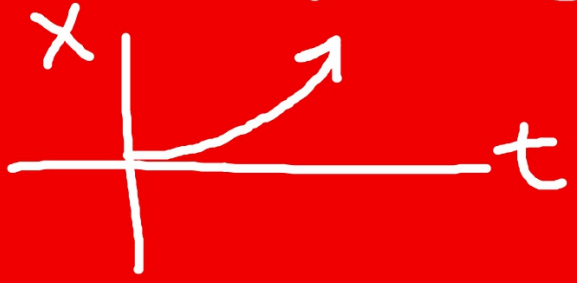
The correct answer is:

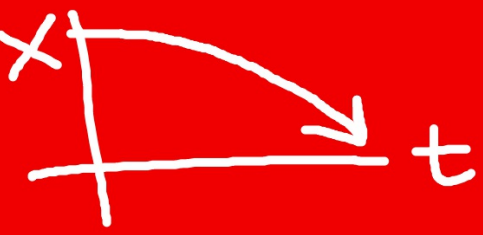
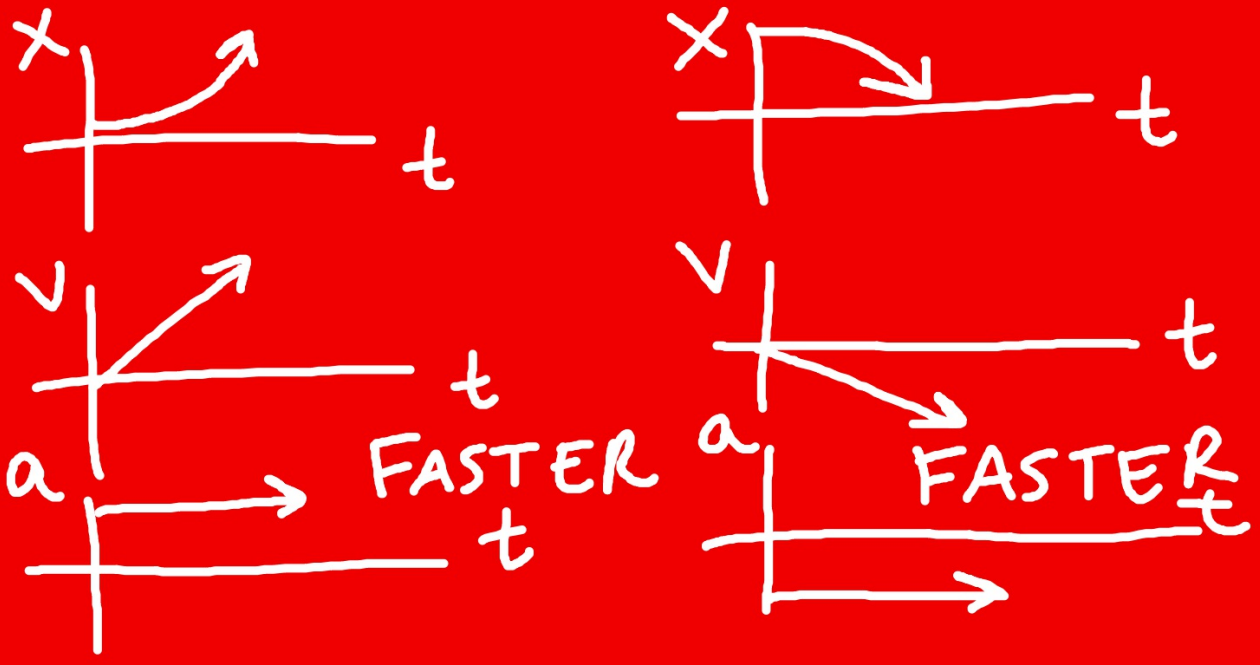
$$\vec{a} = \frac{\vec{V}_f - \vec{V}_i}{\Delta t}$$

$$= \frac{25\ \frac{m}{s} - 0\ \frac{m}{s}}{15s} = 1.7\ \frac{m}{s^2}$$

Question:

Draw the acceleration graphs and choose getting faster/getting slower.





The correct answer is: