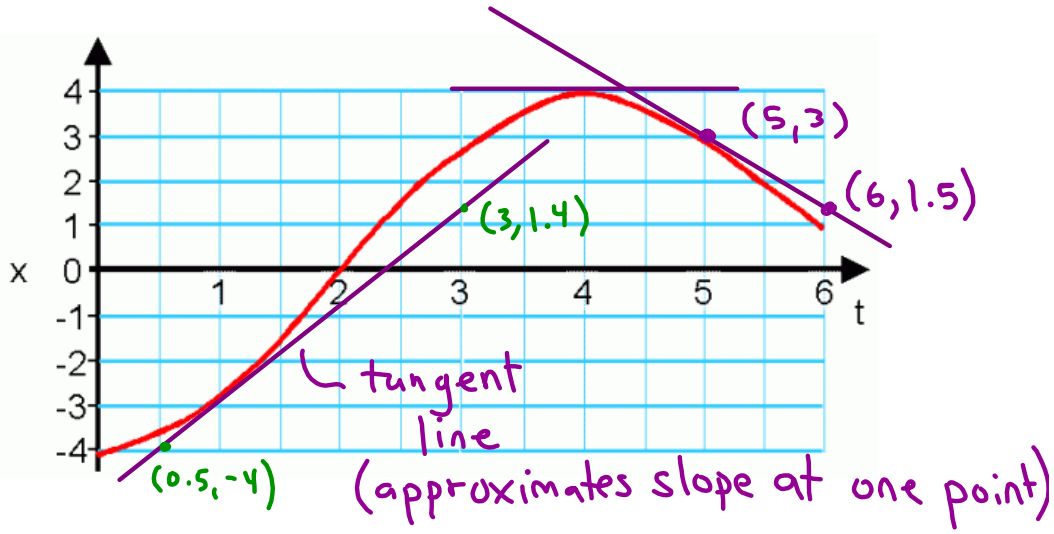


1. What is the average velocity over the first four seconds?

$$\vec{v}_{av} = \frac{\vec{\Delta d}}{\Delta t} = \frac{4-(-4)\,m}{4-0\,s} = \frac{8\,m}{4\,s} = 2\,m/s$$

2. What is the velocity at 1 second? 4 seconds? 5 seconds?

At 1s:

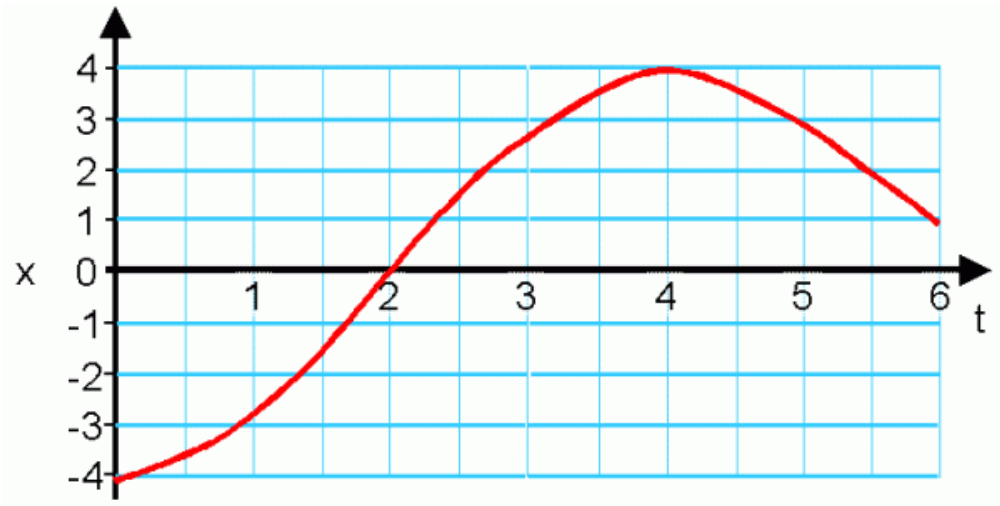
$$\vec{v}_{inst} = \frac{1.4-(-4)\,m}{3-0.5\,s} = \frac{5.4\,m}{2.5\,s} = 2.2\,m/s$$

At 4s:

$$\vec{v}_{inst} = 0$$

At 5s:

$$\vec{v}_{inst} = \frac{1.5-3\,m}{6-5\,s} = -1.5\,m/s$$



3. What is the average speed over 6 seconds?

$$v_{av} = \frac{\Delta d}{\Delta t}$$

$$= \frac{|4-(-4)| + |1-4|}{6s}\ m$$

$$= \frac{(8+3)}{6s}\ m$$

$$= \frac{11m}{6s} = 1.83\ m/s$$