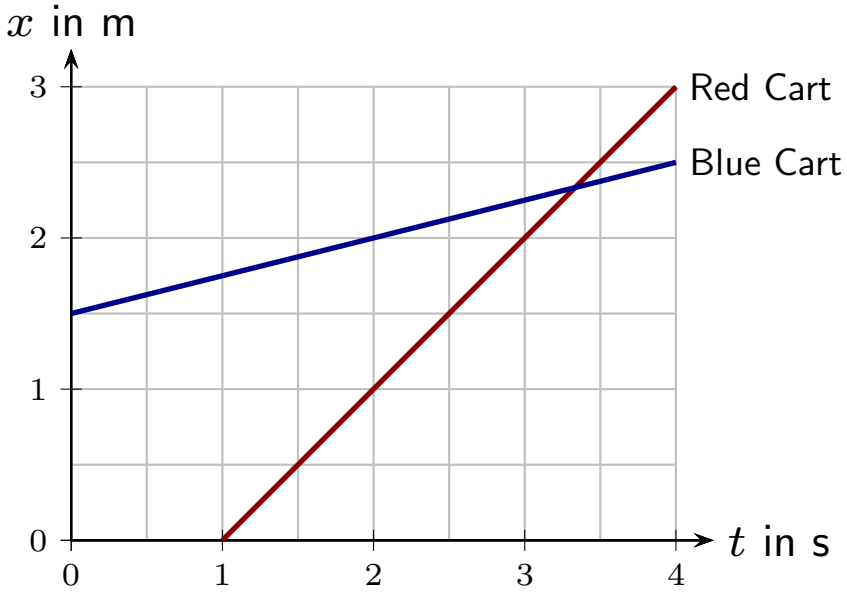
Question 1

Graphs of position vs. time for two objects moving in one dimension are illustrated.

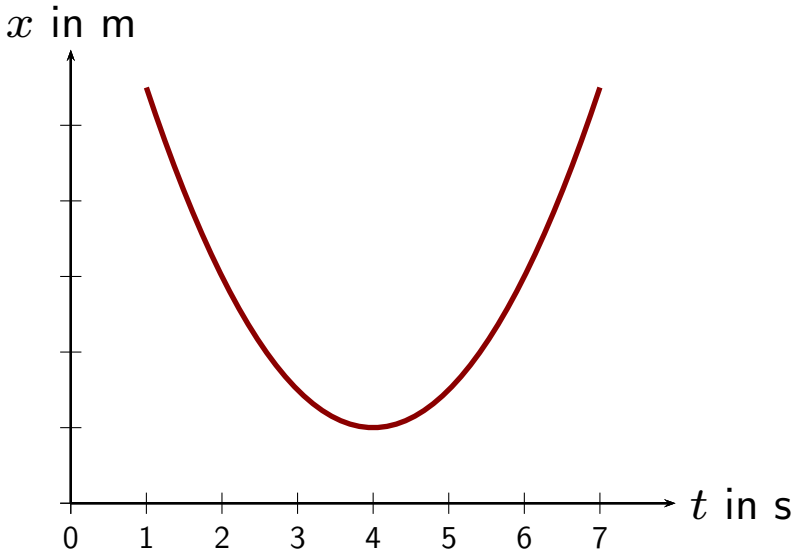


Let v_{red} be the velocity of the red cart and v_{blue} be the velocity of the blue cart. Which of the following is true at $2\,\text{s}$?

1. $v_{\text{red}} = v_{\text{blue}}$
2. $v_{\text{red}} > v_{\text{blue}}$
3. $v_{\text{red}} < v_{\text{blue}}$

Question 2

A graph of position vs. time for an object that moves in one dimension is as illustrated.

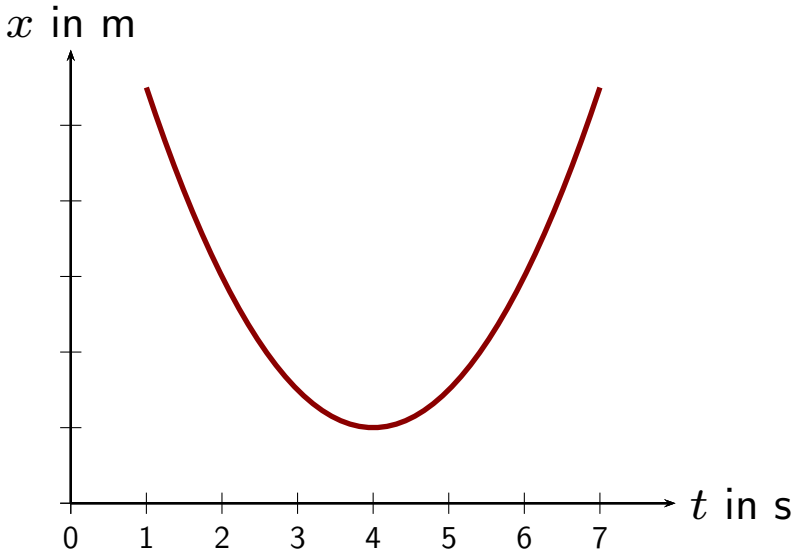


Which of the following is true?

1. The object always moves right.
2. The object always moves left.
3. The object moves right before 4 s and left after 4 s.
4. The object moves left before 4 s and right after 4 s.

Question 3

A graph of position vs. time for an object that moves in one dimension is as illustrated.



Which of the following is true?

1. The object always has positive velocity.
2. The object always has negative velocity.
3. The object sometimes has positive velocity and sometimes negative velocity.