

Who Finishes When?

Alice's walking rate is 2.5 meters per second. Her younger brother Mack, walks 1 meter per second. Because Alice's rate is faster than Mack's, Alice gives Mack a 45-meter head start in a 100-meter race. What happens in the race?

Explain your strategy for solving this problem and give evidence to support your answer.

Questions to further pose to students:

What if there was no head start?

How long would it take Alice to erase the head start?

How can you make the race closer?

How can you make the race a tie?

How do the various solutions show the same information?

How do the various solutions show different information?

Which solutions/representation do you think is the easiest to understand? Why?

What change(s) could you suggest to make the problem more interesting?