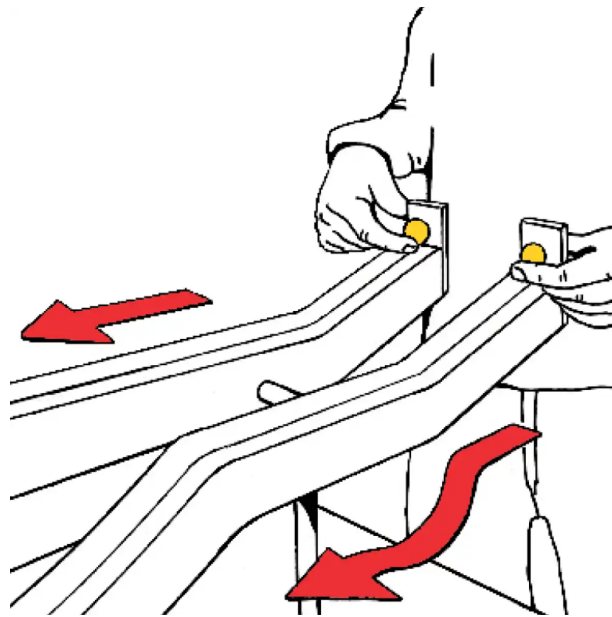# Fast detour

Which ball arrives first?

Place both balls on the highest point of the track.

Let both balls go simultaneously.

The ball running through the hollow detour arrives earlier than the ball travelling on the straight connection.

The hollow detour has the mathematical curve of a brachistochrone. It describes the fastest connection of two points and it is faster than the direct straight connection.

The final velocity of both balls is identical. However, the average speed for the detour track is higher.