

1	At the 2008 Olympic games, the qualifying standard for the women's 100 metres race was 11.32s. How does this compare with the speed of a bus?
2	At the 2008 Olympics Shelly-Ann Fraser won the women's 100m in a time of 10.78s. If she had continued running, how much further would she have run by the time an athlete running at the qualifying speed (11.32s) would have crossed the line?
3	In the 2009 IAAF World championship, Usain Bolt ran the 100m in 9.58s. Estimate how far he would have been ahead of the gold medallist from Lane 2 had they been racing together.
4	Imagine that you raced in the 200m with Usain Bolt. By what length would he beat you?
5	Imagine that a 2km rowing race took place on a rowing lake with two separate legs of 1km. How would the total race time vary from a race on a river where one leg is upstream and the other downstream?
6	Imagine that a cyclist A completes a lap following the blue line on the velodrome track. Cyclist B completes a lap 1m inside the blue line and cyclist C completes a lap 2m outside the blue line. How do the distances travelled vary between the cyclists?
7	In the past, the start of a 100m race was indicated by a pistol shot next to lane 1. Did this give a significant advantage to the runner in lane 1? Would it have given a significant advantage to anyone if this pistol was fired from the end of lane 4?
8	Imagine an announcement is made from a podium in the centre of a stadium. As the speaker talks into her microphone the sound is simultaneously sent to speakers which project the sound into the stadium and up to satellites which transmit the signal as digital radio. Who might hear the sound first: someone listening on the radio or someone listening in the stadium?