
SPEED WORKSHEET

Question 1 (3 marks)

Let's say the lead characters Jack and Annie get the bus to 70 miles/hr, and need to jump a 60 foot gap in the highway ahead. If the length of the bus is 50 feet, find how far in metres the bus will fall while jumping the gap? (In this scenario, the bus stays horizontal, continuing straight and losing altitude to land its entire length on a lower section of roadway). 1 foot = 0.3048 m, and 1 mile = 1609 m.

Question 2 (3 marks)

In this scenario, the highway section the bus lands on is at the same height as the section it jumps from. Calculate what will happen if the bus jumps upwards at an optimal 45 degree angle – find out whether it is possible to jump the distance, using the speed and other characteristics from Question 1.

Question 3 (4 marks)

Calculate what will happen if the bus jumps upwards at a 30 degree angle and find out whether it is possible to jump the distance. In this scenario, the highway section the bus lands on is at the same level as the section it jumps from. Use the speed and other distances from Question 1.