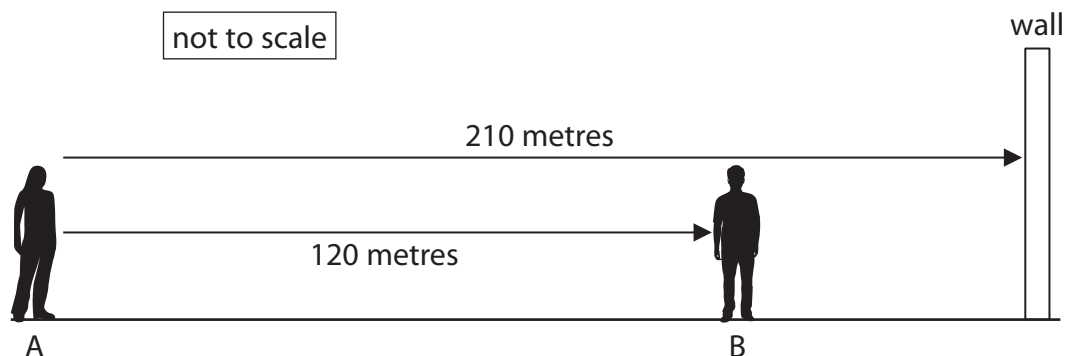


2 Two students investigate the speed of sound.

Student A has a device that makes a loud sound.

Student B has a stopwatch.

A sound wave travels from student A to the wall and is reflected back to student B.



- (a) Calculate the total distance the sound wave travels from student A to the wall and back to student B.

(1)

distance = m

- (b) Student B hears the sound before and after the sound wave reflects from the wall.

When student B hears the sound before reflection, he starts the stopwatch.

When student B hears the sound after reflection, he stops the stopwatch.

The students repeat this experiment five times.

The table shows the students' results.

Time in s				
0.50	0.62	0.52	0.58	0.55

Calculate the mean (average) time.

Give your answer to 2 significant figures.

(2)

mean time = s



(c) Calculate the speed of sound for this investigation.

(4)

speed = m/s

(d) Suggest a reason why the students' results are not always the same.

(1)

(Total for Question 2 = 8 marks)

