Q1.   A plane takes 30 seconds to fly a distance of 8 kilometres.

Work out the average speed of the plane, in miles per hour.

.... miles per hour

(Total 3 marks)

M1.

Working	Answer	Mark	Additional Guidance
8 km per 30 seconds = 16 km per minute = 16 × 60 = 960 km per hour 960 km/hr × 5 ÷ 8 = 600 miles per hour	600	3	**M1** convert to km/h by × 2 × 60 or 960 seen or use of speed = distance ÷ time **M1** convert distance to miles by × 5 ÷ 8 oe or sight of 5 miles **A1** cao
			Total for Question: 3 marks

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Many candidates knew that there was a relationship between speed, distance and time with the formula triangle diagram often seen although sometimes with speed or time at the top of the triangle. The most common error was either multiplying 30 by 8 or dividing 30 by 8.

Over half the candidates failed to score on this question even though it was seldom left blank. A third of the candidates did score 1 mark generally for successfully calculating 960 km/h but then progressed no further. The conversion from kilometres to miles was not well known. Many who wrote 5 miles = 8 km or 1 mile = 1.6 km often did not know how to apply this knowledge. Just under 10% of the candidates reached an answer of 600 miles per hour. In this type of question candidates should be encouraged to use common sense and to check that their answer is of a reasonable size for the vehicle being considered.