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Last updated at Dec. 16, 2024 by Teachoo It is used to show Distance Travelled and Time Taken on a graph paper Here, Time Taken is shown on x axis Distance is shown on y axis Distance Time Graph for Uniform Speed Suppose an object travels at Uniform speed of 50 km/hour It means Hour 0 0 1 50 2 100 3 150 4 200 Plotting it in Graph We show Time on x axis Distance on y axis Distance Time Graph for Object Moving at Non Uniform Speed Suppose an object travels at 30 km/hour in first hour,50 km/hr in second hour,100 km in third hour ,140 km in fourth hour It means Hour 0 0 1 20 2 70 3 150 4 200 Distance Time Graph in case of Stationary Object In case of Stationary object,Distance Travelled does not change Suppose Distance travelled in 1 hour,2 hour ,3 hours remains fixed at 100 km In this case Distance time graph will be as follows Finding Velocity from Distance-Time Graph Summary Of Distance Time Graph Questions NCERT Question 6 - Fig 8.11 shows the distance-time graph of three objects A,B and C. Study the graph and answer the following questions: View Answer A distance-time graph shows how far an object has travelled in a given time. It is a simple line graph that denotes distance versus time findings on the graph. Distance is plotted on the Y-axis. Time is plotted on the X-axis. Note: Curved lines on a distance-time graph indicate that the speed is changing. You may also want to check out these topics given below! Graphs Velocity-Time Graph Linear Graph Importance of Distance-Time Graph We deal with the distance-time graph while studying the motion of bodies. If we record distance and time for the motion of a body and plot the same data on a rectangular graph, we will obtain a distance-time graph corresponding to the motion of that body. Example: For better understanding, let us consider an example of uniform motion. A bus driver drives at a constant speed which is indicated by the speedometer and the driver measures the time taken by the bus for every kilometre. The driver notices that the bus travels 1 kilometre every 2 minutes. Data Table He prepares the data table after this so that he has a clear understanding of everything and then draws the graph as shown below. By this table, he had a clear idea about the speed which is $\frac{1}{2} \times 60 = 30$ km/hr. The graph is a straight line and the motion of the bus is also uniform. Also, from the graph, we can find the speed of the bus at any instant of time. The initial and final position of the car can be found as the following: Speed = (Final Position-Initial position)/Time The slope of the line can be found by drawing a rectangle anywhere near the straight line which determines the speed of the bus. If an object is not moving, the distance-time graph results in a horizontal line which shows that the object is at rest. Conclusion: The following things can be concluded now: If the distance-time graph is a straight line then the slope is uniform. If the distance-time graph of a body is given, its speed can be calculated using the slope of the graph. The slope of the straight-line graph is the same irrespective of the interval which is chosen. This implies that the speed of an object under uniform motion remains constant. What is Velocity -Time Graph and Displacement-Time Graph? A graph is defined as a pictorial representation of information which is a two-dimensional drawing showing the relationship between dependent and independent variables. Independent variables are denoted on the horizontal line known as the x-axis, while the dependent variables are denoted on the vertical line known as the y-axis.The main components of a 2D graph are x-coordinate and y-coordinate.Displacement time graph, velocity-time graph, and acceleration time graph are three common types of graphs in classical mechanics.In the distance-time graph, distance is the dependent variable and is represented on the y-axis, while time is the independent variable and is represented on the x-axis.The slope of the distance-time graph represents the speed of an object. Stay tuned to BYJU'S and Fall in Love with Learning! Put your understanding of this concept to test by answering a few MCQs. Click 'Start Quiz' to begin! Select the correct answer and click on the "Finish" button.Check your score and answers at the end of the quiz.Visit BYJU'S for all Physics related queries and study materials 0 out of 0 are wrong 0 out of 0 are correct 0 out of 0 are Unattempted View Quiz Answers and Analysis One afternoon, Mary cycled 8 km from her home to her grandfather's house.Part of the travel graph for her journey is shown. (a) Find Mary's speed at 2 pm.The speed is the gradient of the line at that pointThe gradient at 2pm is the same as the gradient for all points between 1:45pm and 2:45pmIt is easiest to use for that bigger section6 km/(h) Calculate, in minutes, how long Mary stopped on the way to her grandfather's house.The horizontal line is where Mary stopsThe scale is 1 square = 15 minutes15 minutes(c) Calculate Mary's overall average speed from leaving her home to arriving at her grandfather's house, giving your answer correct to 3 significant figures. Overall average speed is Total distance travelled is 8 kmTotal time (including rests) is 1.75 hoursRound the answer to 3 significant figures4.57 km/h (to 3 s.f.)(d) Mary stayed at her grandfather's house for half an hour, then cycled home at a steady speed without stopping, arriving home at 4pm.Complete the travel graph for Mary's journey.Rest is a horizontal lineReturning home is a straight line with a negative gradient Page 2The speed-time graph for a car travelling between two sets of traffic lights is shown below. (a) For how long was the car travelling at a constant speed?Constant speed is represented by horizontal linesThere is a horizontal line from 6 seconds to 15 seconds15 - 6 = 9 seconds(b) Calculate the acceleration during the first 6 seconds. In a speed-time graph the acceleration is the gradient of the graphAcceleration = 1.5 m/s²(c) Work out the distance covered by the car. In a speed-time graph the distance travelled is equal to the area under the graph The graph is a trapezium so use the formula Distance travelled = 130.5 mPage 3(a) Each of the graphs below show the depth of water, d cm, in different containers that are being filled from a running tap of water.Match each of the graphs 1, 2, 3, 4 with the containers A, B, C, D.Considering graph 1: the gradient is constantThis means the rate of change is constantSo the depth increases at the same rate throughoutThis matches container D which has vertical sides, so depth increases uniformlyGraph 1 is container Dconsidering graph 2: the gradient starts shallow and becomes steeper, meaning that the depth increases faster and faster at the endThis matches container A, which gets narrower towards the top, causing the depth to increase faster at the endGraph 2 is container Aconsidering graph 3: the gradient starts steep and becomes shallower, meaning that the depth increases at a slower and slower rate as time increasesThis matches container B, which gets wider towards the top, causing the depth to increase more slowly at the endGraph 3 is container Bconsidering graph 4: the gradient starts steep, then becomes steep again, then becomes steep again, so the depth increases quickly, then slowly, then quickly againThis matches container C, which is narrow at the bottom (fast depth increase), gets wider in the middle (slower depth increase) and narrow again at the top (faster depth increase)Graph 4 is container C(b) The graph below shows a model of the volume, v litres, of diesel fuel in the tank of George's truck after it has travelled a distance of d kilometres.(i) Find the gradient of the graph, stating its units clearly.-0.09 litres per kilometre(ii) Interpret what the gradient of this graph represents.Consider the units of the gradient: litres per kilometreAn increase in 1 kilometre causes a decrease of 0.09 litres in diesel fuelThe gradient represents the amount of diesel fuel used to travel one kilometreTravelling 1 km uses up 0.09 litres of diesel fuel(iii) Give one reason why this model may not be realistic.Fuel may not be consumed at a constant rate(The rate may vary as the driver accelerates)(The rate may be different at the beginning when the truck weighs more)Page 4Exam code: 0580 & 09801 hour23 questions1 a 1 markThe diagram shows the speed-time graph of part of a car journey.Find the deceleration of the car between 10 and 13 seconds..... m/s²1b2 marksCalculate the total distance travelled during the 13 seconds..... mDid this page help you?2a 1 markThe diagram shows the speed-time graph for 60 seconds of a car journey.Change 90 km/h to m/s..... m/s 5b 1 markFind the deceleration of the car in m/s²..... m/s²2c 3 marksCalculate the total distance travelled by the car during the 70 seconds..... mDid this page help you?3a 1 markThe diagram shows information about the final 70 seconds of a car journey. Find the deceleration of the car between 60 and 70 seconds..... m/s² 3b3 marksCalculate the distance travelled by the car during the 70 seconds..... mDid this page help you?4a 3 marksThe speed-time graph shows information about the journey of a tram between two stations. Calculate the distance between the two stations..... m4b 1 markCalculate the average speed of the tram for the whole journey..... m/sDid this page help you?11 markThe diagram shows the speed-time graph for the final 40 seconds of a car journey. At the start of the 40 seconds the speed is m/s.Find the acceleration of the car during the first 24 seconds..... m/s2Did this page help you?2a 1 markThe diagram shows the speed-time graph of a train journey between two stations.Find the acceleration of the train during the first 40 seconds..... m/s22b3 marksCalculate the distance between the two stations..... mDid this page help you?3a 1 markThe speed-time graph shows the first 50 seconds of a journey.Calculate the acceleration during the first 15 seconds..... m/s23b3 marksCalculate the distance travelled in the 50 seconds..... mDid this page help you?4a 1 markThe diagram shows the speed-time graph for part of a journey for two people, a runner and a walker.Calculate the acceleration of the runner for the first 3 seconds..... m/s2 4b3 marksCalculate the total distance travelled by the runner in the 19 seconds..... m4c3 marksThe runner and the walker are travelling in the same direction along the same path. When = 0, the runner is 10 metres behind the walker. Find how far the runner is ahead of the walker when = 19..... mDid this page help you?5a 2 marksThe diagram shows the speed-time graph for 60 seconds of a car journey.Change 90 km/h to m/s..... m/s 5b 1 markFind the deceleration of the car in m/s²..... m/s²5c 2 marksFind the distance travelled, in metres, in the 60 seconds..... mDid this page help you?14 marksThe diagram shows the speed-time graph for the final 40 seconds of a car journey. At the start of the 40 seconds the speed is m/s.The total distance travelled during the 40 seconds is 1.24 kilometres. Find the value of..... Did this page help you?2a 3 marksThe speed-time graph shows information about a train journey.By drawing a suitable tangent to the graph, estimate the gradient of the curve at .2b 1 markWhat does this gradient represent?2c 2 marksWork out the distance travelled by the train when it is travelling at constant speed..... kmDid this page help you?3a 1 markJalina left her home at 10 00 to cycle to a park. On her way to the park, she stopped at a friend's house and then continued her journey to the park. Here is the distance-time graph for her journey to the park.On her journey to the park, did Jalina cycle at a faster speed before or after she stopped at her friend's house? Give a reason for your answer.3b 2 marksJalina stayed at the park for 45 minutes. She then cycled, without stopping, at a constant speed of 16 km/h from the park back to her home.Show all this information on the distance-time graph.3c 3 marksWork out Jalina's average cycling speed, in kilometres per hour, for the complete journey to the park and back. Do not include the times when she was not cycling in your calculation. Give your answer correct to 1 decimal place..... km/hDid this page help you?Page 5Set Notation & Venn DiagramsSet Notation & Venn DiagramsSimplifying Surds, Rationalising DenominatorsUsing a CalculatorAlgebraic Roots & IndicesAlgebraic Roots & IndicesDirect Proportion, Inverse ProportionQuadratic GraphsPage 6Exam code: 0580 & 0980Tools designed specifically for the Cambridge (CIE) IGCSE Maths: Extended syllabus, to help you ace your exams, including: past papers, revision notes, and exam-style questions, created by our expert team of teachers and examiners[Exam specification aligned][Personalised feedback on exam answers][Written by teachers and examiners][Examiner tips and tricks][Exam practice with solutions][PDF downloads]<Step-by-step mark schemes Distance-time graphs show how far an object has travelled in a designated period of time. The graph shows distance versus time and is made up of a simple line graph.1. On the Y-axis, the distance is plotted.2. On the X-axis, time is plotted. Distance-time graphs show the speed of a vehicle changing along curved lines.The Importance of Distance - Time GraphsIn studying the motion of bodies, we deal with distance-time graphs. A distance-time graph representing the motion of a body is obtained when we plot the data for distance and time for a body on a rectangular graph.Distance vs. Time DefinitionDuring the study of distance-time graphs, the three most critical components are time, speed, and distance. The vertical Y-axis of a graphical representation is the vertical time axis, while the horizontal X-axis is the horizontal distance axis. Then, once the axes are determined, it is easy to plot the values on the graph.As the distance versus time graph shows, we can see the different variations of the body's movement. For instance, when a graph plots as a straight line, this indicates that the body is moving at a fixed (or constant) speed.Time Distance Graph Worksheet.To help students gain a better understanding of the topic, we have compiled some worked-out mathematical problems.Consider the following graph that shows Ralph's entire journey. Here are the results.He covered a total distance.He remained stationary for a period of time.He travelled at an average speed of 17.15 to 17.45 (kilometers per hour).By looking at the axis, it appears that Ralph first travelled 25 km, rested, and then returned home. Therefore, the total distance he travelled was 25km + 25km = 50 km. Ralph was in the station for one box's duration, which is clear from the graph. Additionally, from the axis, it is clear that two boxes total equal 15 minutes. The time spent stationary would be 15/2 = 7.5 minutes.First, you must estimate the gradient of the graph from 17:15 to 17:45 (30 minutes or 0.5 hours) to calculate the average speed between the points. As you can see, he increased his speed by five kilometers until he reached 25 kilometers. In total, he traveled 20 kilometers. Since the gradient is 20/0.5, his speed is 40 km/h.E-learning platforms like Vedantu can help you learn more about distance time graphs. It is easy to learn such topics without any hassle if you have expert suggestions, mock exam question papers, and lucid explanations. Additionally, live classes and question-and-answer sessions with experts will help you to better prepare for your final exam. A distance-time graph is a graphical representation of how far a body has travelled in a specified amount of time. It is used to depict the relationship between distance and time, where distance is plotted on the Y-axis and time is plotted on the X-axis. Let's first learn the importance of distance-time graphs.Distance-time graphs help to study the motion of bodies. A distance-time graph shows how far someone or something has travelled and how long it took them/it to travel that distance. A distance-time graph is obtained when the data of distance and time obtained while studying the motion of a body is plotted on a rectangular graph.Distance-time graphsThe graphs shown above are distance-time graphs for various types of body motion. When a body is steady or stationary, When a body is moving at a uniform speed,When a body is moving non-uniformly with increasing speed, andWhen a body is moving non-uniformly with decreasing speed.Must ReadGraphical Representation of MotionUniform Circular MotionConclusionsThe following are the points concluded from the distance-time graphs.When a body is at rest, then the graph is parallel to the axis where time is plotted. When the motion of a body is uniform, then the distance-time graph is a straight line.Slope of the distance-time graph is equal to the speed of the body.Slope of the straight-line graph is constant regardless of the chosen interval. This implies that an object moving uniformly will always move at the same speed. Speed increases as the graph become steeper.A negative gradient or slope means the body is slowing down. Examples on Distance-Time GraphsExample 1: The graph below describes the journey of a man. Determine the speed of the man for each part of the journey. Solution:From the given graph, we can conclude that,Part a: From 10:00 to 11:30, the man travelled 15 km from the starting point in 1.5 hours.Part b: From 11:30 to 13:30, the man is at rest, so the distance remains the same.Part c: From 13:00 to 14:30, the man traveled the 15 km back to where they began in 1 hr.Speed at part a: Speed = 15/1.5 = 10 km/hSpeed at part b: Speed = 0/2 = 0 km/h (not moving)Speed at part c: Speed = 15/1 = 15 km/hExample 2: Jay is going for a drive in his car. The distance-time graph given below describes his full journey. Calculate his total distance traveled during his journey, as well as his average speed between 4:30 and 5:30. Solution:Jay traveled 30 km away from his home and then stopped for a while. He again drove 20 km and stopped briefly. He then traveled 50 km back home.So, the total distance traveled by Jay = 30 km + 20 km + 50 km = 100km.From the axis, we can observe that two big squares total 30 minutes. Hence, one big square is worth 15 minutes. From 4:30 to 4:45, Jay is at rest.So, his speed between 4:30 and 4:45 = 0/0.25 = 0 km/h.To calculate the average speed of Jay between 4:30 and 5:30, we need to calculate the slope of the graph between 4:45 and 5:00. This period lasted for 15 minutes, which is equivalent to 0.25 hours - this is the "change in x". During this period, he increased his distance from home from 30 km up to 50 km. That means he traveled 20 km in total - this is the "change in y". So, we get, slope = 20/0.25 = 80 km/h.Hence, the average speed = (0 + 80)/2 = 40 km/hExample 3: Construct a distance-time graph from the description of Uma's journey given below. Uma left her home at 17:00 and, after traveling at a constant speed for an hour, she had covered 28 kilometers before stopping. After half an hour of being stopped, she drove home at a constant speed, and it took her an hour and a half in total to reach home.Solution:From the given data, we conclude that,From 17:00 to 18:00, Uma travels from 0 km away to 28 km away;From 18:00 to 18:30, she is at rest.From 18:30 to 20:00, she travels from 28 km away to 0 km away.The final graph looks like this, Example 4: Every morning, Shubham walks from his home to the bus stop nearby, which is 750 meters away from his home. The below graph shows his journey on one particular day. Calculate his average speed from 0 sec to 40 sec and from 30 sec to 110 sec. Solution:To calculate the average speed of Shubham from 0 sec to 40 sec, we need to calculate the slope of the graph from 0 sec to 40 sec. This period lasted for 40 seconds - this is the "change in x". During this period, he increased his distance from home from 0 m to 300 m. That means he traveled 300m in total - this is the "change in y". So, slope = change in y/change in x = 300/40 = 7.5 m/s.Thus, Shubham's average speed from 0 to 40 sec is 7.5 m/s.Now, to calculate the average speed of Shubham from 50 sec to 110 sec, we need to calculate the slope of the graph from 50 sec to 110 sec. This period lasted for 60 seconds - this is the "change in x". During this period, he increased his distance from home from 200 m to 700 m. That means he traveled 500m in total - this is the "change in y". So, slope = 500/60 = 8.34 m/s.Hence, Shubham's average speed from 50 to 110 sec is 8.34 m/s.Example 5: A tourist bus journey on a day trip to the coast is recorded. Now, calculate the maximum speed of the bus throughout the trip and also how long the bus was stationary.Solution:Slope (or) gradient of a distance-time graph is the speed. Therefore, to calculate the fastest average speed, we must find the steepest section of the graph.Bus traveled at maximum speed from 15:00 to 15:30. It covered 30 km in half an hour.So, the maximum speed of the bus = 30/(0.5) = 60 km/hr.Bus stopped for 30 minutes at the 40 km mark. Here we will learn about distance-time graphs, including how to interpret and construct them. There are also distance-time graph worksheets based on Edexcel, AQA and OCR exam questions, along with further guidance on where to go next if you're still stuck. Distance-time graphs are graphs that show the distance an object or person has travelled against time. They can also be referred to as travel graphs. A distance-time graph will show the distance (in metres, kilometres, miles etc.) on the vertical axis (y-axis) and the time (in seconds, minutes, hours etc.) on the horizontal axis (x-axis). The distance-time graphs we will look at on this page will all be drawn using straight lines. Straight lines on a distance-time graph represent constant speeds. To find the speed from a distance-time graph you will need to be able to find the gradient of the straight lines. The steeper the gradient, the faster the object is travelling. One way of calculating the speed from a distance-time graph is to think about how far the object has travelled in one time unit. For example, if an object has travelled 20 miles in 30 minutes, it would travel 40 miles in one hour, therefore the speed is 40 mph. In order to read distance-time graphs, locate any relevant points from the distance-time graph. Check the information required. For example, distance travelled at a selected time, period of being stationary, speed at a selected point in the journey. Use the appropriate process from the list. Distance travelled at a selected time - read from the vertical axis at the given time. Period of being stationary - find the time when the line is horizontal. Speed at a selected point in the journey - find the gradient of the line at that time or think how far has the object travelled in one time unit. Average speed for the whole journey - divide the total distance travelled by the total time. Get your free distance time graph worksheet of 20+ questions and answers. Includes reasoning and applied questions. DOWNLOAD FREE x Get your free distance time graph worksheet of 20+ questions and answers. Includes reasoning and applied questions. DOWNLOAD FREE Distance time graph is part of our series of lessons to support revision on rates of change. You may find it helpful to start with the main rate of change lesson for a summary of what to expect, or use the step by step guides below for further detail on individual topics. Other lessons in this series include: Rate of change Speed time graph The distance-time graph shows the journey of a person from their home. How far away from their home are they after 1 hour and 30 minutes? Locate any relevant points from the distance-time graph. Locate 1 hour 30 minutes on the horizontal axis and go up to the graph line. 2Check the information required. For example, distance travelled at a selected time, period of being stationary, speed at a selected point in the journey. We require the distance travelled at that time. 3Use the appropriate process from the list. Distance travelled at a selected time - read from the vertical axis at the given time. Reading from the vertical axis gives a distance of 25 \ km. The distance-time graph shows the journey of a person from their home. At what time did the person first stop and for how long? Locate any relevant points from the distance-time graph. Locate the points in the graph when the line changes. Check the information required. For example, distance travelled at a selected time, period of being stationary, speed at a selected point in the journey. We required the average speed for the whole journey. Use the appropriate process from the list. Average speed for the whole journey - divide the total distance travelled by the total time. It is important to add all the distances travelled and find the time for the whole journey including any periods when the person was stationary. \text{Average speed} = \frac{\text{total distance}}{\text{total time}} = \frac{60(3)}{20} \text{ km/h} In order to draw distance-time graphs: Draw/label the horizontal axis for the time and a vertical axis for the distance. Use the information about the distance or speed of the object to plot points on the graph. Join the points with straight line segments. A car starts from home and travels at a constant speed for 30 minutes until it is 20 miles from home. It then stops for 1 hour before returning home, travelling at a constant speed for 45 minutes. Draw a distance-time graph to represent the journey. Draw/label the horizontal axis for the time and a vertical axis for the distance. Draw the horizontal and vertical axes, but we will finish labelling them once we know more information about the maximum distance and times taken based on the information provided about the speed. Use the information about the distance or speed of the object to plot points on the graph. Plot (12,0,0). The car travels at a speed of 30 \ mph between 12:00 and 12:30. \ 30 \ mph means it would travel 15 miles in 30 minutes, so we will need to plot (12:30,15). The car stops for 10 minutes, so we will need to plot (12:40,15). The car returns home at a speed of 45 \ mph. You can use \text{time} = \frac{\text{distance}}{\text{speed}} = \frac{15(45)}{1(3)} \ \text{hour}, so it will take 20 mins to travel 15 miles. We will need to plot (13:00,0). Choose appropriate scales for the axes and plot the points. Join the points with straight line segments. A person walks from home for 10 minutes to a distance of 1 \ km. They stop for 5 minutes, and then run at a speed of 8 \ km/h away from home. After 45 minutes they immediately change direction and run towards home at a speed of 7 \ km/h. Draw a distance-time graph to represent their journey. Draw/label the horizontal axis for the time and a vertical axis for the distance. Draw the horizontal and vertical axes, but we will finish labelling them once we know more information about the maximum distance and times taken based on the information provided about the speed. Use the information about the distance or speed of the object to plot points on the graph. The person starts from home, so we will need to plot (0, 0). The person walks from home for 10 minutes to a distance of 1 \ km, so we will need to plot (0,1). They stop for 5 minutes, so we will need to plot (15,1). Then run at a speed of 8 \ km/h away from home for 45 minutes. 45 minutes = 0.75 hours. Using \text{distance} = \text{speed} \times \text{time} = 8 \times 0.75 = 6 \ km. We will need to plot (60,7). They immediately change direction and run towards home at a speed of 7 \ km/h, they have 7 \ km to run which will take 60 minutes, so we will need to plot (120,0) Choose appropriate scales for the axes and plot the points. Join the points with straight line segments. Confusing distance-time graphs with speed-time graphs It is common for students to confuse distance-time graphs with speed-time graphs. This may result in students just reading a value from the vertical axis instead of calculating the gradient of a distance-time graph to find a speed. Calculating average speed incorrectly The average speed could be incorrectly calculated by finding the mean of the different speeds during a journey. Another incorrect method is to only use the periods when the object is moving and to forget to include the periods when it is stationary. Drawing impossible distance-time graphs There are some graphs that would be impossible for a distance-time graph. For example, vertical lines would represent an infinite speed. Objects travelling back in time. The object is accelerating. The object is stationary. The object is moving at a constant speed. The object is decelerating. A horizontal line shows the object is covering zero distance for a period of time. Greater speeds have a steeper gradient. The object travels 40 \ km in 2 hours. The object travels 120 miles in 1.5 hours, so it must travel 80 miles in 1 hour. 60 \ km/h for 30 minutes gives a distance of 30 \ km. 0 \ km at 40 \ km/h will take 45 minutes. 40 \ km at 80 \ km/h will take 30 minutes. The journey ends after 90 minutes. 1. A salesperson was driving on a motorway from London to York. He stopped at a motorway service station halfway into his journey. Which of the distance-time graphs could represent his journey? (1 mark) 2. The distance-time graph shows part of a journey Sarah took on a bike ride. (a) What did Sarah do between 09:45 and 10:00? (b) What was Sarah's speed between 10:00 and 10:30, in km/h? (3 marks) (a) She stopped moving/was stationary. (1) (b) Process of dividing 6 \ km by 0.5 hours or equivalent method. (1) 12 \ km/h (1) 3. The distance-time graph shows the first part of a journey of a person on a shopping trip. The person walked from their home to the shop and arrived at 12:00. The person stays in the shop for 15 minutes and then catches a bus home. The bus stopped outside their door and travelled at an average speed of 20 miles per hour. (a) At what speed did they walk to the shops? Give your answer in miles per hour. (b) Complete the distance-time graph showing the remaining parts of their journey. (4 marks) (a) 5 \ mph (1) (b) Horizontal line to (12:15, 5). (1) Process to find the time for the bus ride (15 minutes). (1) Line from (12:15, 5) to (12:30, 0). (1) You have now learned how to: Read and interpret distance-time graphs Draw distance-time graphs Calculate speed from distance-time graphs Conversion graphs Units of measurement Scale maths Prepare your KS4 students for maths GCSEs success with Third Space Learning. Weekly online one to one GCSE maths revision lessons delivered by expert maths tutors. Find out more about our GCSE maths tuition programme. We use essential and non-essential cookies to improve the experience on our website. Please read our Cookies Policy for information on how we use cookies and how to manage or change your cookie settings.AcceptPrivacy & Cookies Policy