

a)
Jessica runs for 15 minutes at an average speed of 6 miles per hour.
She then runs for 40 minutes at an average speed of 9 miles per hour.

It takes Amy 45 minutes to run the same total distance that Jessica runs.

Work out Amy's average speed.
Give your answer in miles per hour.

How far does Jessica run in the first 15 minutes?	<table border="1"> <tr> <td>1</td> <td>60</td> <td>15</td> </tr> <tr> <td>hour</td> <td>mins</td> <td>mins</td> </tr> <tr> <td>6</td> <td>6</td> <td>1.5</td> </tr> <tr> <td>miles</td> <td>miles</td> <td>miles</td> </tr> </table>	1	60	15	hour	mins	mins	6	6	1.5	miles	miles	miles				
1	60	15															
hour	mins	mins															
6	6	1.5															
miles	miles	miles															
How far does Jessica run in the next 40 minutes?	<table border="1"> <tr> <td>1</td> <td>60</td> <td>20</td> <td>40</td> </tr> <tr> <td>hour</td> <td>mins</td> <td>mins</td> <td>mins</td> </tr> <tr> <td>9</td> <td>9</td> <td>3</td> <td>6</td> </tr> <tr> <td>miles</td> <td>miles</td> <td>miles</td> <td>miles</td> </tr> </table>	1	60	20	40	hour	mins	mins	mins	9	9	3	6	miles	miles	miles	miles
1	60	20	40														
hour	mins	mins	mins														
9	9	3	6														
miles	miles	miles	miles														
How far does Amy run in total?	1.5 miles + 6 miles = 7.5 miles																
What is Amy's average speed?	<table border="1"> <tr> <td>45</td> <td>15</td> <td>60</td> <td>1</td> </tr> <tr> <td>mins</td> <td>mins</td> <td>mins</td> <td>hour</td> </tr> <tr> <td>7.5</td> <td>2.5</td> <td>10</td> <td>10</td> </tr> <tr> <td>miles</td> <td>miles</td> <td>miles</td> <td>miles</td> </tr> </table> <p>10 mph</p>	45	15	60	1	mins	mins	mins	hour	7.5	2.5	10	10	miles	miles	miles	miles
45	15	60	1														
mins	mins	mins	hour														
7.5	2.5	10	10														
miles	miles	miles	miles														

b)
Jessica runs for 20 minutes at an average speed of 9 miles per hour.
She then runs for 50 minutes at an average speed of 6 miles per hour.

It takes Amy 40 minutes to run the same total distance that Jessica runs.

Work out Amy's average speed.
Give your answer in miles per hour.

How far does Jessica run in the first 15 minutes?	<table border="1"> <tr> <td>1</td> <td>60</td> <td>20</td> </tr> <tr> <td>hour</td> <td>mins</td> <td>mins</td> </tr> <tr> <td>9</td> <td>9</td> <td>3</td> </tr> <tr> <td>miles</td> <td>miles</td> <td>miles</td> </tr> </table>	1	60	20	hour	mins	mins	9	9	3	miles	miles	miles				
1	60	20															
hour	mins	mins															
9	9	3															
miles	miles	miles															
How far does Jessica run in the next 50 minutes?	<table border="1"> <tr> <td>1</td> <td>60</td> <td>10</td> <td>50</td> </tr> <tr> <td>hour</td> <td>mins</td> <td>mins</td> <td>mins</td> </tr> <tr> <td>6</td> <td>6</td> <td>1</td> <td>5</td> </tr> <tr> <td>miles</td> <td>miles</td> <td>mile</td> <td>miles</td> </tr> </table>	1	60	10	50	hour	mins	mins	mins	6	6	1	5	miles	miles	mile	miles
1	60	10	50														
hour	mins	mins	mins														
6	6	1	5														
miles	miles	mile	miles														
How far does Amy run in total?																	
What is Amy's average speed?																	

c)

Jessica runs for 10 minutes at an average speed of 9 miles per hour. She then runs for 45 minutes at an average speed of 8 miles per hour.

It takes Amy 40 minutes to run the same total distance that Jessica runs.

Work out Amy's average speed.
Give your answer in miles per hour.

How far does Jessica run in the first 15 minutes?	<table border="1"><tbody><tr><td>1 hour</td><td>60 mins</td><td>10 mins</td></tr><tr><td>9 miles</td><td>9 miles</td><td>1.5 miles</td></tr></tbody></table>	1 hour	60 mins	10 mins	9 miles	9 miles	1.5 miles
1 hour	60 mins	10 mins					
9 miles	9 miles	1.5 miles					
How far does Jessica run in the next 45 minutes?							
How far does Amy run in total?							
What is Amy's average speed?							

d)

Jessica runs for 24 minutes at an average speed of 6 miles per hour. She then runs for 20 minutes at an average speed of 12 miles per hour.

It takes Amy 48 minutes to run the same total distance that Jessica runs.

Work out Amy's average speed.
Give your answer in miles per hour.