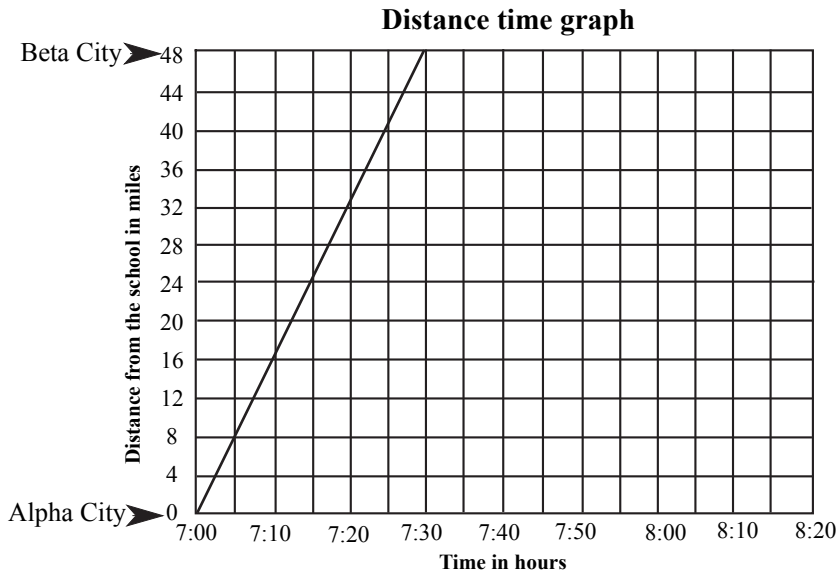


MathFLIX CHALLENGE

Understanding distance - time graphs

Study the distance time graph to answer the questions below.



2. The sloping line shows the journey from Alpha City to Beta City. The train leaves Alpha at 7:00 and arrives at Beta at 7:30.

How far apart are the cities? _____
 How long is the train's trip? _____
 What is the average speed of the train? _____

3. Another train leaves Beta City at 7:00 and arrives at Alpha City at 7:30.

List the coordinates where the Beta City train starts? _____
 What are the coordinates of the ending point? _____
 Draw a line to show the journey of the 7:00 Beta train.
 At what time do the two trains pass each other? _____
 How many miles are they from Alpha? _____
 What is the coordinate? _____

4. Trains leave Alpha and Beta every 10 minutes during the rush hour from 7:00 – 8:00, repeating the two journeys on the graph.

Use a ruler to draw lines to show all the trains that leave Alpha. Are these lines parallel? _____
 Are the slopes the same? _____
 Use another color to draw lines to show all the trains that leave Beta. Are these lines parallel? _____
 Are the slopes the same? _____

1. What does the x-axis represent?

Are the intervals equal? _____

What are the intervals? _____

What does the y-axis represent?

Are the intervals equal? _____

What are the intervals? _____

5. We see that the 7:00 train from Alpha meets the 7:10 train from Beta at (7:15, 24). Each has traveled for 15/30 minutes and completed half the distance or $\frac{1}{2} \times 48$.

Which Beta train does the 7:00 Alpha train pass?

What time is it when the 7:00 train from Alpha meets the 7:10 train from Beta? _____

How long has the Alpha train been traveling? _____

How long has the Beta train been traveling? _____

The Alpha train has traveled 20/30 or $\frac{2}{3}$ of the distance between the two cities. What is $\frac{2}{3}$ of 48? _____

Name the coordinates where they meet? _____

What time is it when the 7:00 train from Alpha meets the 7:20 train from Beta? _____

How long has the Alpha train been traveling? _____

How long has the Beta train been traveling? _____

The Alpha train has traveled 25/30 or $\frac{5}{6}$ of the distance between the two cities. What is $\frac{5}{6}$ of 48? _____

Name the coordinates where they meet? _____

Where does the 7:00 Alpha train meet the 7:30 Beta train? _____