

Explore



Kelly and Ryan leave school for a cross-country hike. Ryan leaves at 3:00 p.m. He walks 3 km every hour. Kelly leaves at 4:00 p.m. She walks 4 km every hour. Kelly follows Ryan's path.

When does Kelly overtake Ryan? 7:00 pm

How far has each student walked at that time? 12 km



Show and Share

Describe the strategy you used to solve this problem.

Connect

David and Pat leave Oshawa to cycle to Oakville.

Pat leaves at 9:00 a.m.

She cycles 15 km every hour.

David leaves at 10:00 a.m.

He cycles 20 km every hour.

When does David overtake Pat? 1:00 pm

How far has each person travelled at that time? 60 km

Strategies

- Make a table.
- Use a model.
- Draw a diagram.
- Solve a simpler problem.
- Work backward.
- Guess and check.
- Make an organized list.
- Use a pattern.
- Draw a graph.



What do you know?

- Pat leaves at 9:00 a.m.
She cycles 15 km every hour.
- David leaves at 10:00 a.m.
He cycles 20 km every hour.

Think of a strategy to help you solve the problem.

- You could **draw a graph**.
- On the same grid, draw a line graph for each person.
- Find where the graphs meet.



Find how far Pat has gone at 10:00 a.m., 11:00 a.m., noon, and so on.

Record the times and distances in a table.

Mark a point on the graph for each time and distance.

Draw a line through the points.

Repeat this strategy for David.

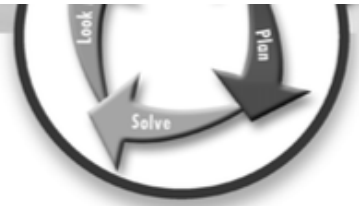
Where do Pat and David meet?

How far has each person gone?

What time is it then?



How could you have solved this problem another way?



Practice

Choose one of the

Strategies

1. A freight train travels 100 km every hour. It passes over a river at 10:00 a.m. Four hours later, a passenger train passes over the same river. The passenger train travels 150 km every hour. When does the passenger train overtake the freight train? **10:00 p.m.**
How far are they from the river? **1200 km**
2. Erica leaves Deer Lake to travel 300 km to Gander. She drives 80 km every hour. Gerry leaves Deer Lake for Gander one hour later. He drives 90 km every hour. Who reaches Gander first? How do you know? **Erica**

Reflect

When can you use the strategy of draw a graph to solve a problem?
Use an example to explain.