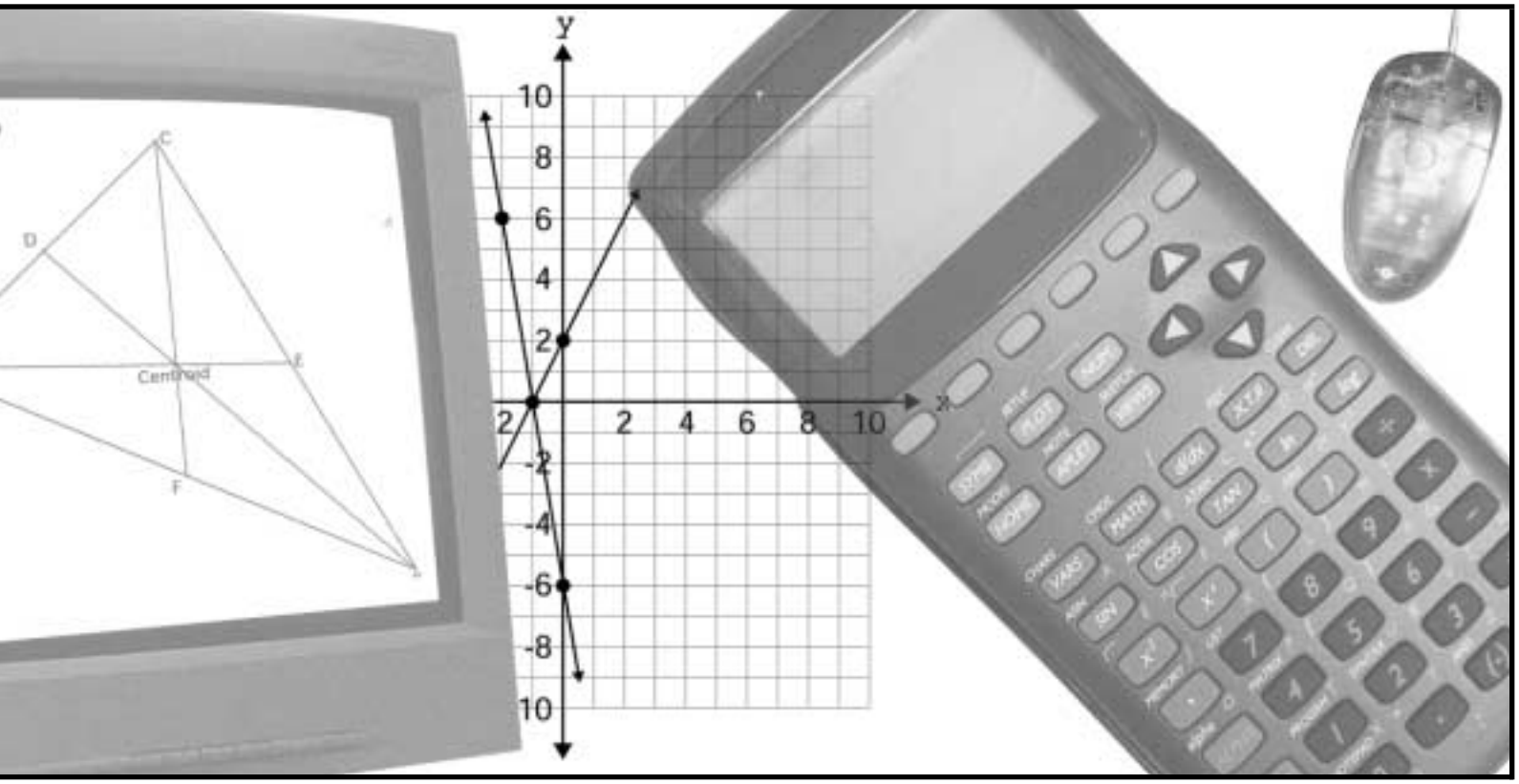
Grade 9 Assessment of Mathematics, 2002–2003



Academic Booklet 3

EQAO
Education
Quality and
Accountability
Office

Directions to Students About Answering Short Answer Items

1. For this part of the assessment, make sure you have the following items along with *Booklet 3*:
   - a pencil and an eraser or a pen
   - a scientific or graphing calculator
   - a ruler and a protractor
2. Do all of your work (even rough work) in *Booklet 3*.
3. You will have 30 min to do these 10 items. That means you have about 3 min for each one. Give yourself time to answer all of the questions.
4. Figures in this section are not drawn to scale.
5. These questions are designed to get you to think deeply about the mathematics you know but they do not require you to write a great deal. Be sure to watch for the terms listed in the Key Words and Phrases in Instructions and do just what the prompt asks you to do.

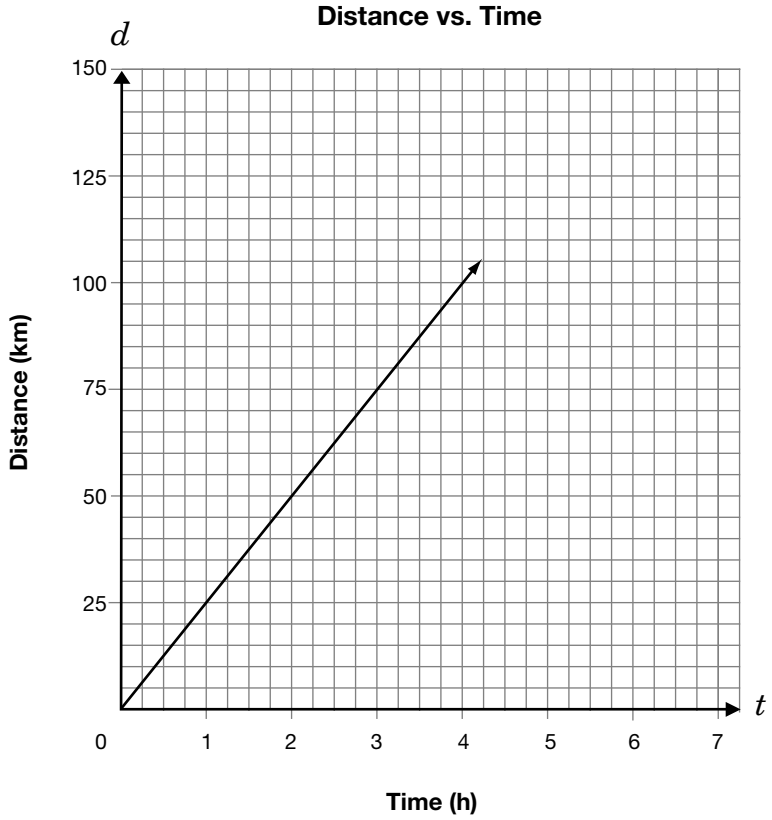
   For example, the question might ask you to "**Explain** your answer." The Key Words and Phrases in Instructions sheet says, "**Explain** means to use words and symbols to make your solutions clear and understandable." As soon as you can explain a mathematical reason for the answer, do so. You do not need to provide lots of calculations to illustrate your point.
6. In short answer questions, you do not have to provide lots of examples to illustrate your answer. Write a short answer.
7. You have **30 min** to work.
8. When you see the 

sign, you have completed *Booklet 3*. Check your answers. Then wait quietly for directions from your teacher.

1. The relationship between the distance, d, in kilometres, travelled by a person on a bicycle and the time, t, in hours, is described in two ways:

- The equation is $\boldsymbol{d = 25t}$.
- The graph is shown below.

Determine the time it will take to travel 140 km.
Show your work.



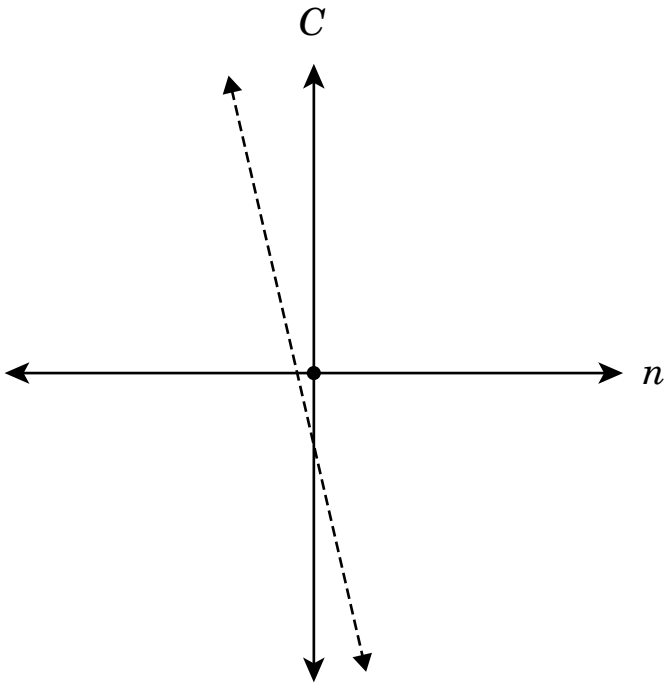
2. Veza uses the equation $C = 43n + 50$ to model the cost of soccer shirts for the team, where

C represents the total cost in dollars,
and
n represents the number of soccer shirts.

Veza sketches the graph of this relationship.

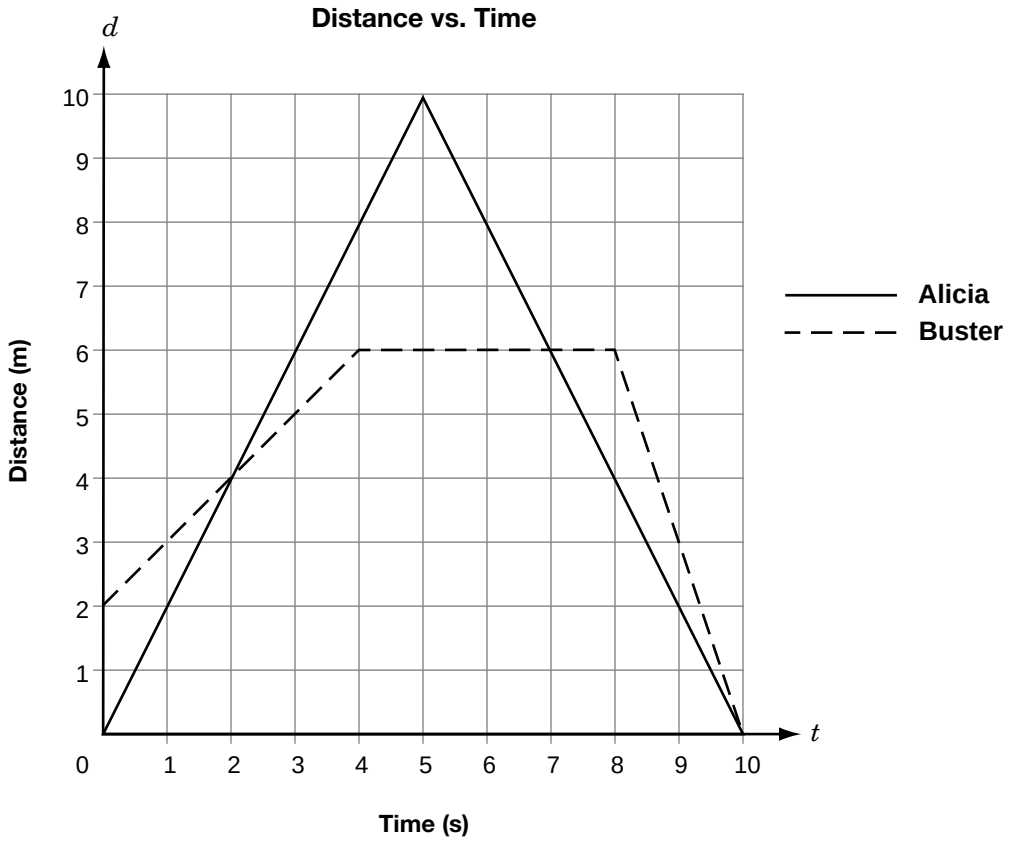
Explain why the graph shown **cannot** represent the total cost of soccer shirts.

List at least two reasons.

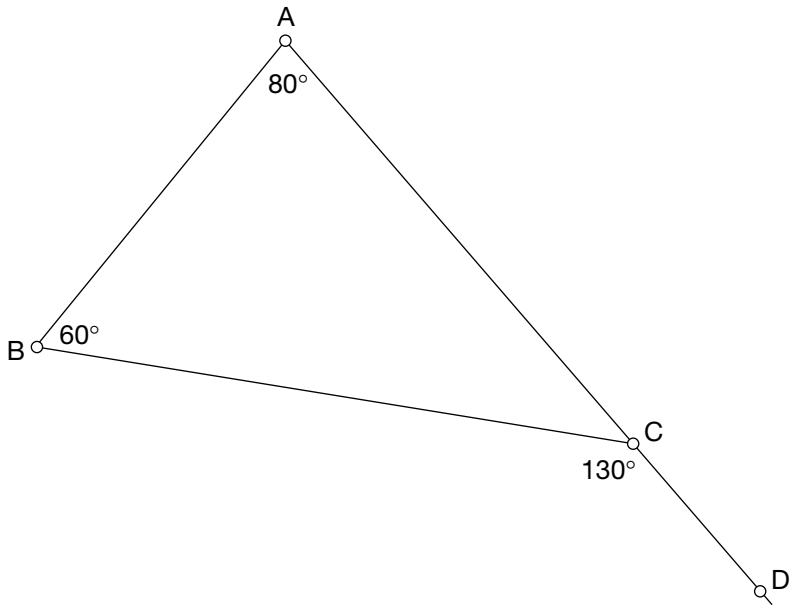


3. Alicia and Buster walked in front of a motion detector. The graph below shows the relationship between the distance from the detector, d, in metres, and time, t, in seconds.

When was Buster moving faster than Alicia? **Give reasons for your answer**.



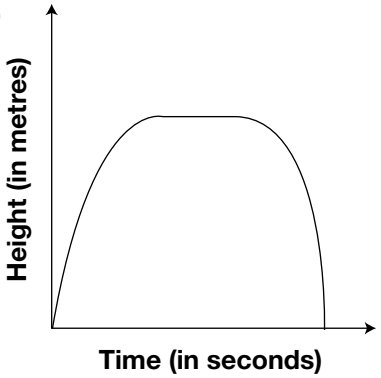
4. There is an error in this diagram. **Describe** the error and give **reasons for your answer.**



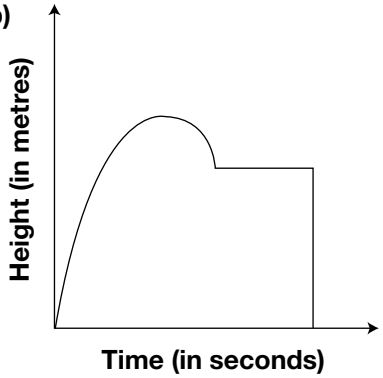
5. Sergio hits a golf ball.
As the ball is **falling,** it gets caught in a tree.
After a few seconds, the ball falls out of the tree.

Circle the height vs. time graph that models the path of Sergio's ball.

a)



b)



c)