Critical and Creative Thinking

NAME:

Year Level/Class: _____

Joanna's Trip

Joanna often rides a bike from her home to her friend's house.
She likes to ride in the shortest possible time.

H = Home
U = Uncle's house
G = Gran's house
L = Library
F = Friend's house

1. Which of these factors could slow down Joanna?
   Select Yes or No and give a reason for your answer.

Factor	Will this slow down Joanna?	Reason
The road has steep hills.	Yes / No	
Joanna is wearing tight jeans.	Yes / No	
Joanna has painted her bike red.	Yes / No	
There is a lot of traffic on the road.	Yes / No	

2. What **other** factors could slow down Joanna?
   Give three different factors.

   (i) _____

   (ii) _____

   (iii) _____

Today, Joanna has some things to do before she visits her friend's house. She can do these things in any order.

Things to do

• Pick up a big parcel from uncle's house

• Deliver the parcel to gran's house

• Take library books back to the library

Joanna only has a small basket on her bike.
She can carry either the parcel or the books, but she cannot carry both.
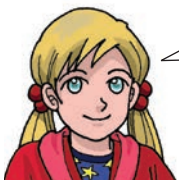
Joanna's dad says:

> You should first go to the library and drop off the books.
> Then you should go to uncle's house and pick up the parcel.
> Then take the parcel to gran's house.
> Then go to your friend's house.

Joanna's dad's route can be written like this:

H → L → U → G → F

Joanna's sister says:

> You should first go to your uncle's and pick up the parcel.
> Then take the parcel to gran's house.
> Then you should come back home, pick up the library books
> and drop them off on your way to your friend's house.

3. Write Joanna's sister's route in a similar way: H → _____

Before Joanna leaves home, she hears that her Uncle's dog tries to bite people who wear a helmet. Is this a big problem for Joanna …?

To decide whether this is a big problem you should answer three questions:
- Will Joanna be delayed?
- Will Joanna be in danger?
- Will Joanna's bike get damaged?

4. Use the table below to show whether this is a big problem for Joanna.
You must create your **own scoring sytem** and write down a total score.

	Situation	Joanna delayed?	Joanna in danger?	Bike damaged?	Total Score
A	Uncle's dog tries to bite people who wear a helmet.				

5. Joanna learns of three more situations. Use **your scoring system** to judge whether these situations cause big problems for Joanna.

	Situation	Joanna delayed?	Joanna in danger?	Bike damaged?	Total Score
B	The road is flooded between uncle's house and gran's house.				
C	Gran has difficulty hearing the doorbell.				
D	There is no place to lock up a bicycle outside the library.				

6. Which of the situations causes the **biggest problem** for Joanna?   **A   B   C   D**
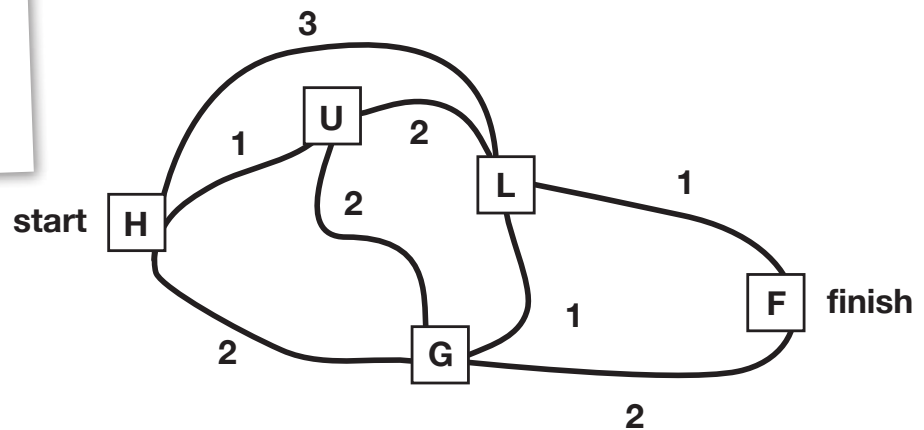Put a circle around A, B, C or D and explain your answer.

_____

_____

_____

7. How can Joanna solve this problem?

_____

_____

_____

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Things to do

• Pick up a big parcel from uncle's house

• Deliver the parcel to gran's house

• Take library books back to the library

The diagram below shows the distances between each place in kilometres.

Joanna's dad's route has a total distance of 9 km.
Joanna's sister's route has a total distance of 9 km.

8. Joanna cannot carry the books and the parcel at the same time.
Is it possible for Joanna to complete her tasks and finish at her friend's house in a distance shorter than 9 km?
Explain your answer.

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