Time in Minutes to travel between events

Entrance							
5	Jolly Rocker						
3	...	Laser Raiders					
2	...	3	Pirate Stunt Show				
...	...	6	9	Driving School			
...	...	..	...	...	Spinning Spiders		
...	6	8	...	7	5	Fire Academy	
20*	...	...	...	8	7	...	Miniland
* sky train							

Cost to widen path in hundreds of pounds sterling

Entrance							
3	Jolly Rocker						
4	...	Laser Raiders					
6	...	2	Pirate Stunt Show				
...	...	4	3	Driving School			
...	...	..	...	...	Spinning Spiders		
...	9	5	...	8	7	Fire Academy	
0*	...	...	...	4	2	...	Miniland

* - skytrain is already accesable so doesn't need to be widened.

number of santas on the path

Entrance							
4	Jolly Rocker						
8	...	Laser Raiders					
4	...	6	Pirate Stunt Show				
...	...	5	3	Driving School			
...	...	..	...	...	Spinning Spiders		
...	1	2	...	12	6	Fire Academy	
0	...	...	...	3	3	...	Miniland

* - skytrain does not have any santas on it

1) In order to minimise waiting times it is best to go from the entrance to Miniland? What is the quickest route?

2) in order to avoid missing any of the characters along the pathways visitors want to know whether it is possible to go around every path without repeating any?

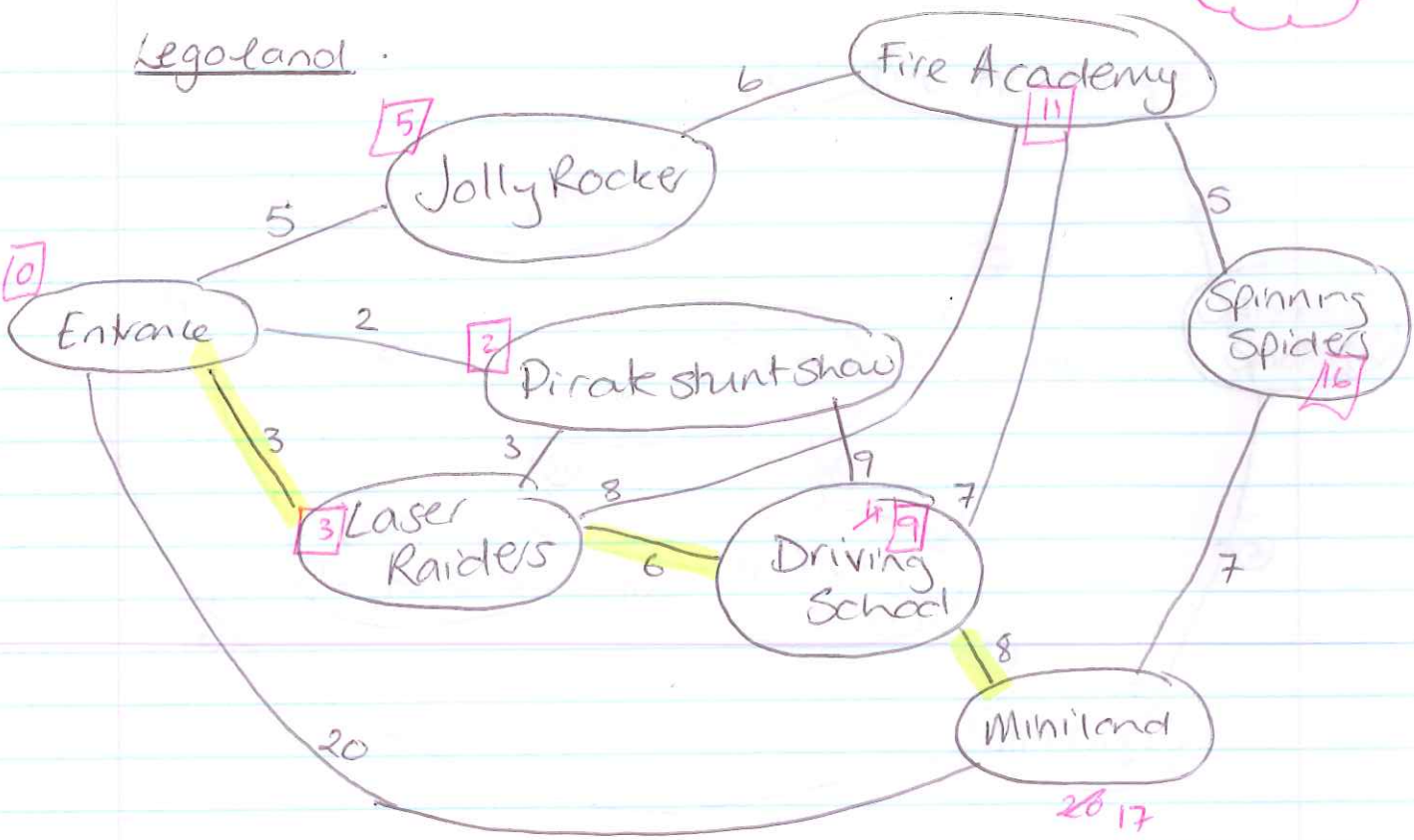
3) The park want to make all the activites wheelchair accessible. To do this pathways will need to be widened. The cost of this is in the above resources. What is the cheapest way for the park to do this?

4) The park is running a Christmas competition which involves spotting Santas on the paths between the rides. Some visitors want to maximise the number of santas they see but still go down the minimum number of paths possible. What path would you recommend they take?

5) Provide the best pathway that would meet the needs from question 1) , 3) and 4). Explain why you think this is the best compromise pathway.

time in mins

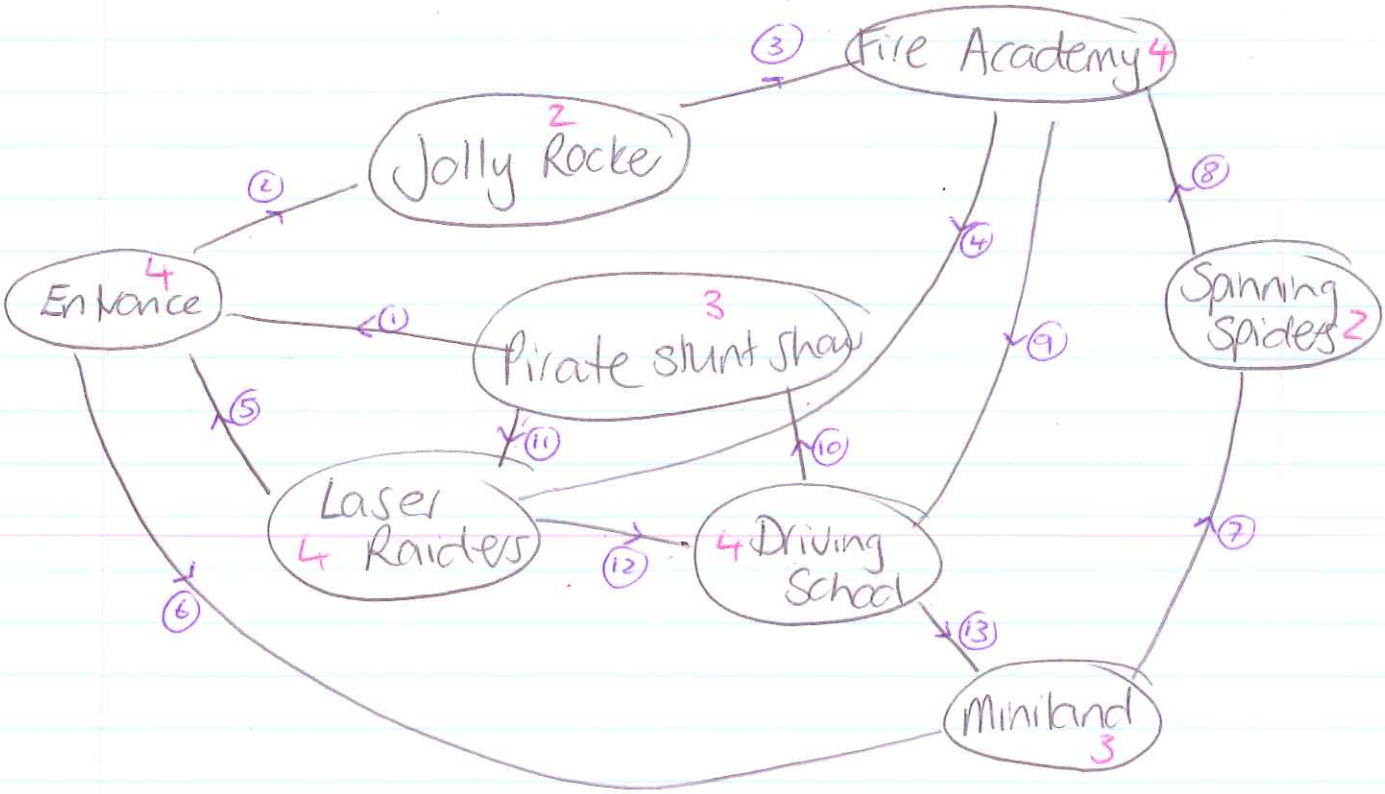
Legoland.



(1) The quickest route from the Entrance to Miniland takes 17 minutes and is

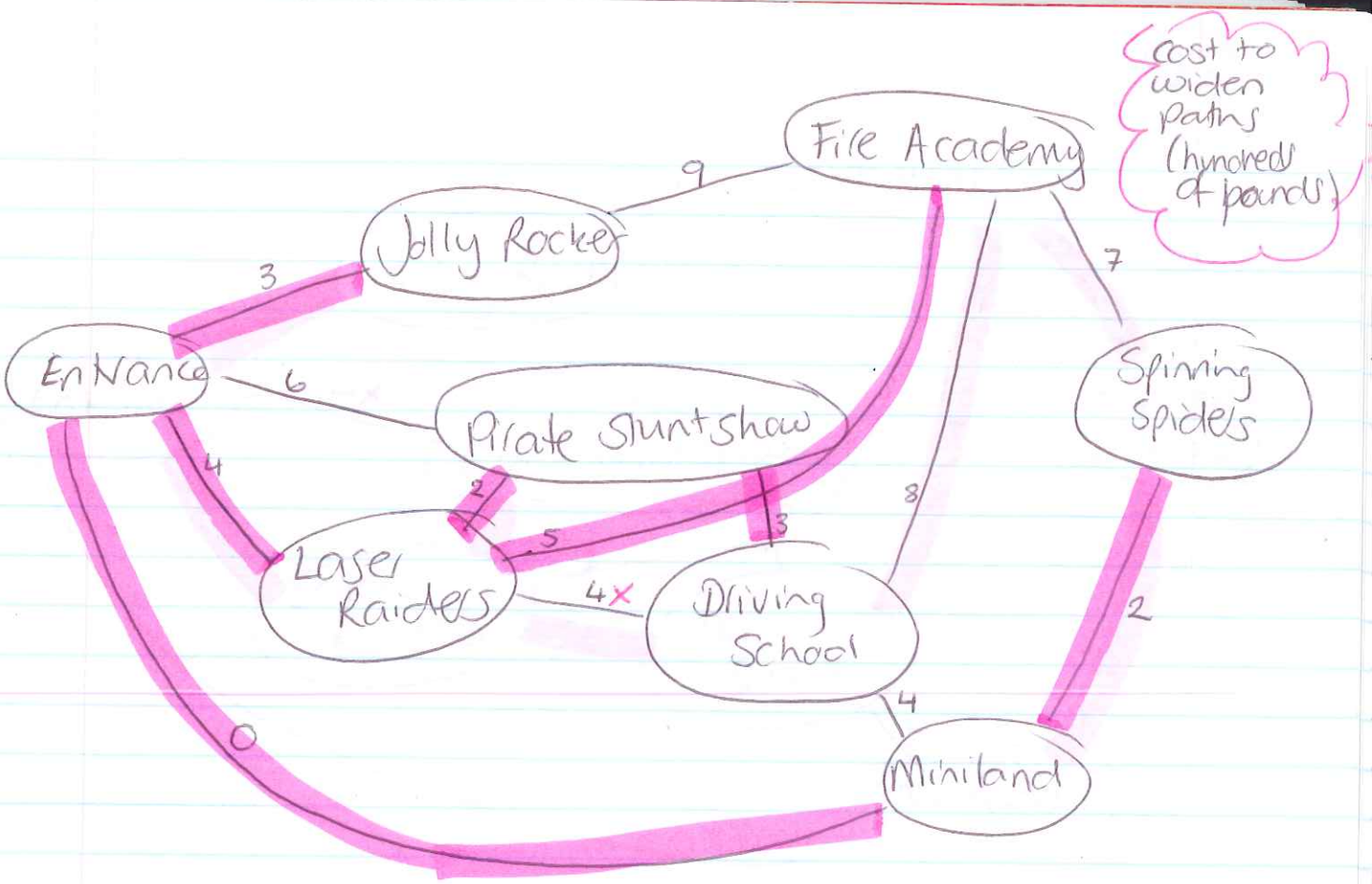
Entrance → Laser Raiders → Driving School

→ Miniland.



(2) Is network Navesable?

The network is semi-Navesable as it has two odd nodes (Pirate Stunt show & miniland) To go around every path without repeating any, visitors would have to start at Pirate stunt show & finish at miniland (or vice versa).
One example of a path is shown on the network diagram above.



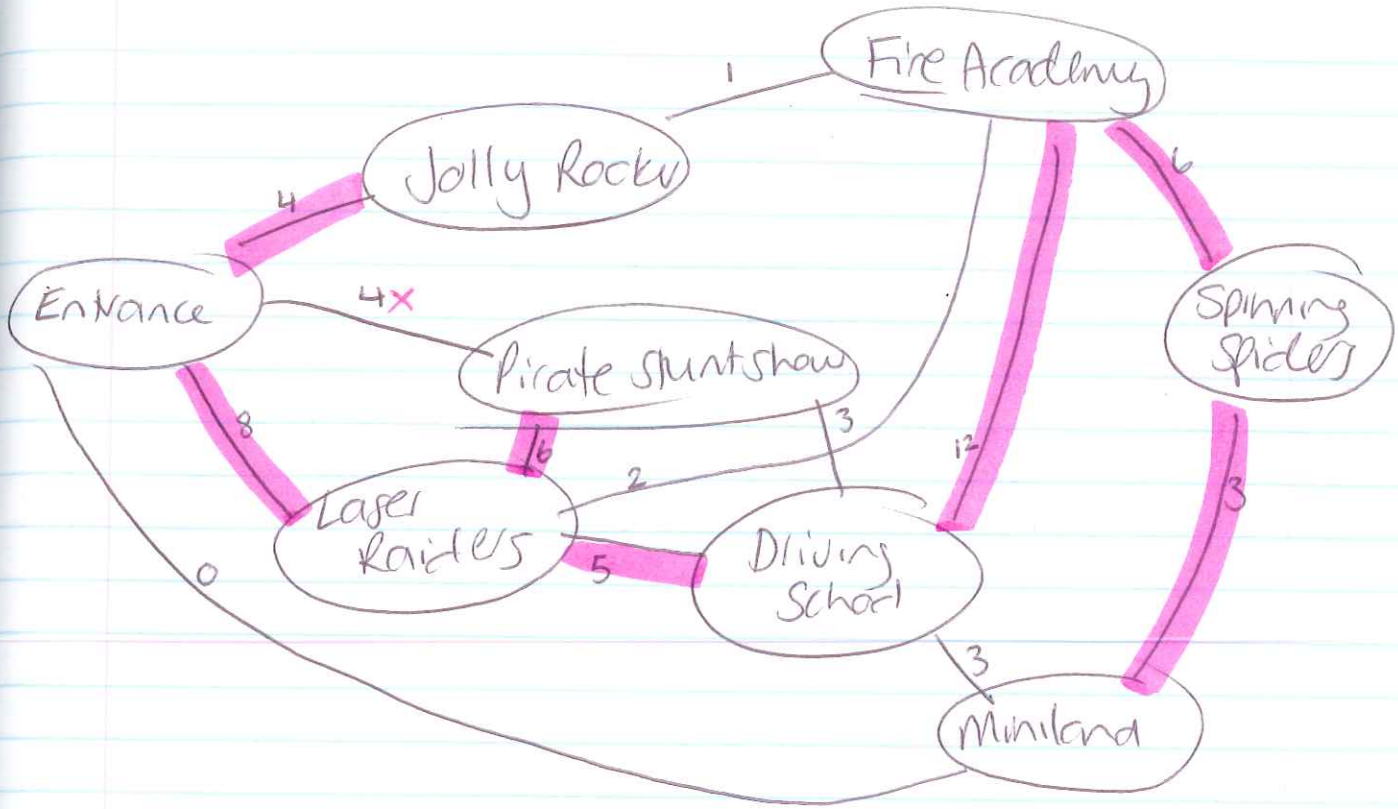
(3) Widening paths → minimum spanning tree

Minimum spanning tree shown on network above

→ Laser Raiders to Driving school (4) not chosen as makes a cycle.

Min cost to make all wheelchair accessible is 19 hundred pounds sterling.

Number of Santas



④ Santas - maximum spanning tree.
maximum spanning tree shown.
Entrance - Pirate stunt show not chosen as makes a loop.

44 santas can be found.

NOTE: this Q could be a compromise network - its not well worded!