

Exercise 1: Basic Network Measurements

Step 1: Please construct a connectivity matrix using the map on page 2 and the table below. Remember that the upper and lower portions of the matrix must be symmetrical. Code direct connections between nodes with a 1 and all others with a 0.

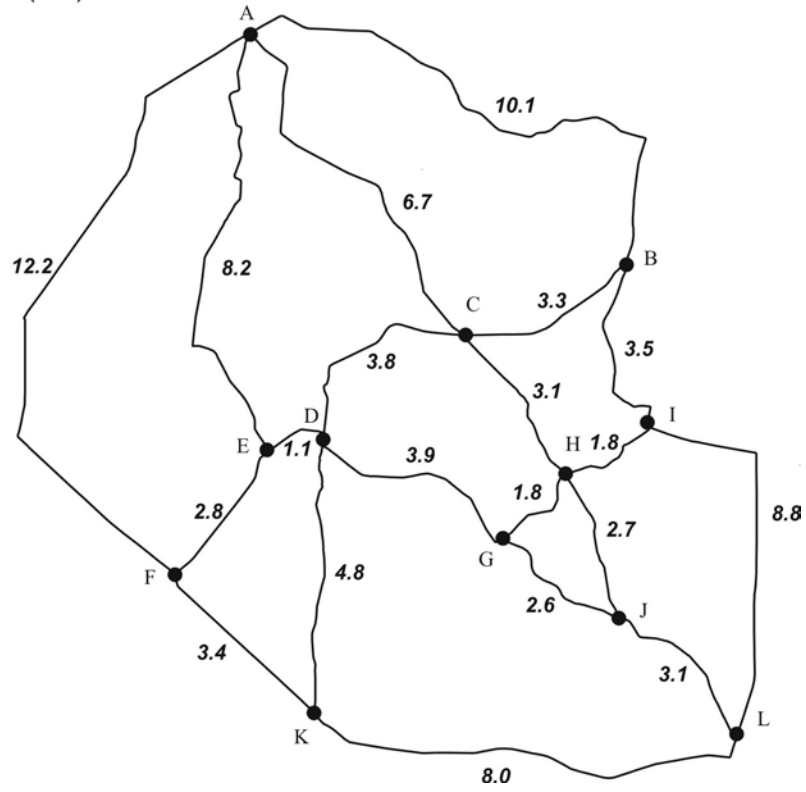
Connectivity Matrix

	A	B	C	D	E	F	G	H	I	J	K	L
A	0											
B		0										
C			0									
D				0								
E					0							
F						0						
G							0					
H								0				
I									0			
J										0		
K											0	
L												0

Step 2: Calculate the following indices for the above matrix. Write the equation and answers in the spaces provided. The area of the network is 120 km². All distances are in km.

	Equation	Answer
Cyclomatic number (μ):	_____	_____
Detour Index (Total Circuity):	_____	_____
Network Density:	_____	_____
Alpha (α):	_____	_____
Gamma (γ):	_____	_____
Beta (β):	_____	_____
Min μ	_____	_____
Max Circuits	_____	_____
Eta (η)	_____	_____

Routes Distances (Km)



Direct Distances (Km)

