

## Prims and Kruskals Algorithms D1 – www.m4ths.com

### Section A

A Network is a \_\_\_\_\_

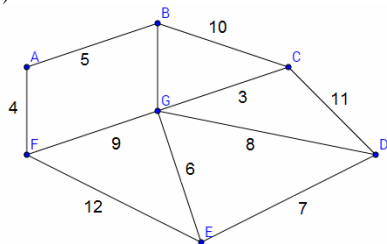
A Tree is a \_\_\_\_\_

A Cycle is a \_\_\_\_\_

A Spanning Tree is a \_\_\_\_\_

A Minimum Spanning Tree is a \_\_\_\_\_

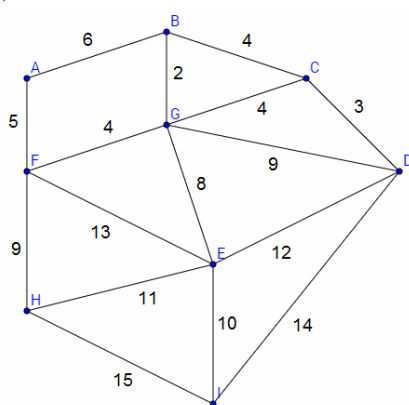
(1)



Kruskals

Prims

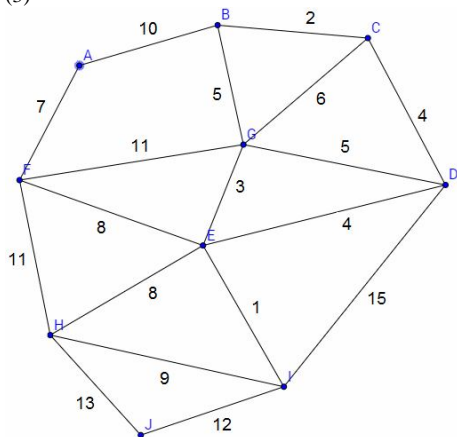
(2)



Kruskals

Prims

(3)



Kruskals

Prims

### Section B

Prims from a distance matrix

A Distance Matrix is a \_\_\_\_\_

(a) Start at A

	A	B	C	D	E
A	-	12	8	14	9
B	12	-	15	7	13
C	8	15	-	8	11
D	14	7	8	-	5
E	9	13	11	5	-

MST:

Weight=

(b) Start at A

	A	B	C	D	E	F
A	-	3	5	12	8	15
B	3	-	4	5	11	16
C	5	4	-	9	7	13
D	12	5	9	-	1	6
E	8	11	7	1	-	3
F	15	16	13	6	3	-

MST:

Weight=

(c) Complete the distance matrix and start at A

	A	B	C	D	E	F	G
A	-		3	5	4	12	
B	10	-	4		7	11	5
C	3	4	-		15	9	8
D	5	3	13	-		13	9
E		7	15	6	-	2	
F	12	11		13	2	-	8
G	10	5	8		1		-

MST:

Weight=

(d) Start at M

	M	N	O	P
M	-	1	2	1
N	1	-	3	3
O	2	3	-	1
P	1	3	1	-

MST:

Weight=