

Advanced Mathematics Support Programme®





The Connected World































You & your 50 friends











Separation	Number of people				
1	50				





Separation	Number of people				
1	50				
2	2 500				





Separation	Number of people				
1	50				
2	2 500				
3	125 000				





Separation	Number of people				
1	50				
2	2 500				
3	125 000				
4	6 250 000				





Separation	Number of people				
1	50				
2	2 500				
3	125 000				
4	6 250 000				
5	312 500 000				





Separation	Number of people				
1	50				
2	2 500				
3	125 000				
4	6 250 000				
5	312 500 000				
6	15 625 000 000				









































Separation from A to D =

Separation from A to F =

Maximum separation of network =







	Α	В	С	D	Ε	F	G	Н		J
Α	-	1	1	2	2	3	2	2	1	1
В										
С										
D										
Ε										
F										
G										
Н										
I										
J										







	Α	В	С	D	Ε	F	G	Н		J
Α	-	1	1	2	2	3	2	2	1	1
В	1	-	1	1	2	2	3	2	2	1
С	1	1	-	1	1	2	2	3	2	2
D	2	1	1	-	1	1	2	2	3	2
Ε	2	2	1	1	-	1	1	2	2	3
F	3	2	2	1	1	-	1	1	2	2
G	2	3	2	2	1	1	-	1	1	2
Η	2	2	3	2	2	1	1	-	1	1
I	1	2	2	3	2	2	1	1	-	1
J	1	1	2	2	3	2	2	1	1	-





- Change the number of people (n) (you might want to start with 20)
- Change number of friends (*f*)
- What is the maximum separation? (our graph of 10 people with 4 friends had a maximum separation of 3).
- Can you generalise for *n* people with *f* friends?



































- Change the number of people (n) (you might want to start with 20)
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- Can you generalise for *n* people with *f* friends?





- Design a poster that describes the problem and shows your solution.
- This can be hand drawn or on computer.
- You may wish to include some extension from the initial problem – your teacher will have some suggestions.
- Ask your teacher to email your entry to us by Monday 21st March.





The following slides won't be discussed on the video, but you may wish to share this information with interested students.







Frigyes Karinthy





Maine

Rhode Island

Connecticu

New Jersey

Delaware

Maryland

West Virginia













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