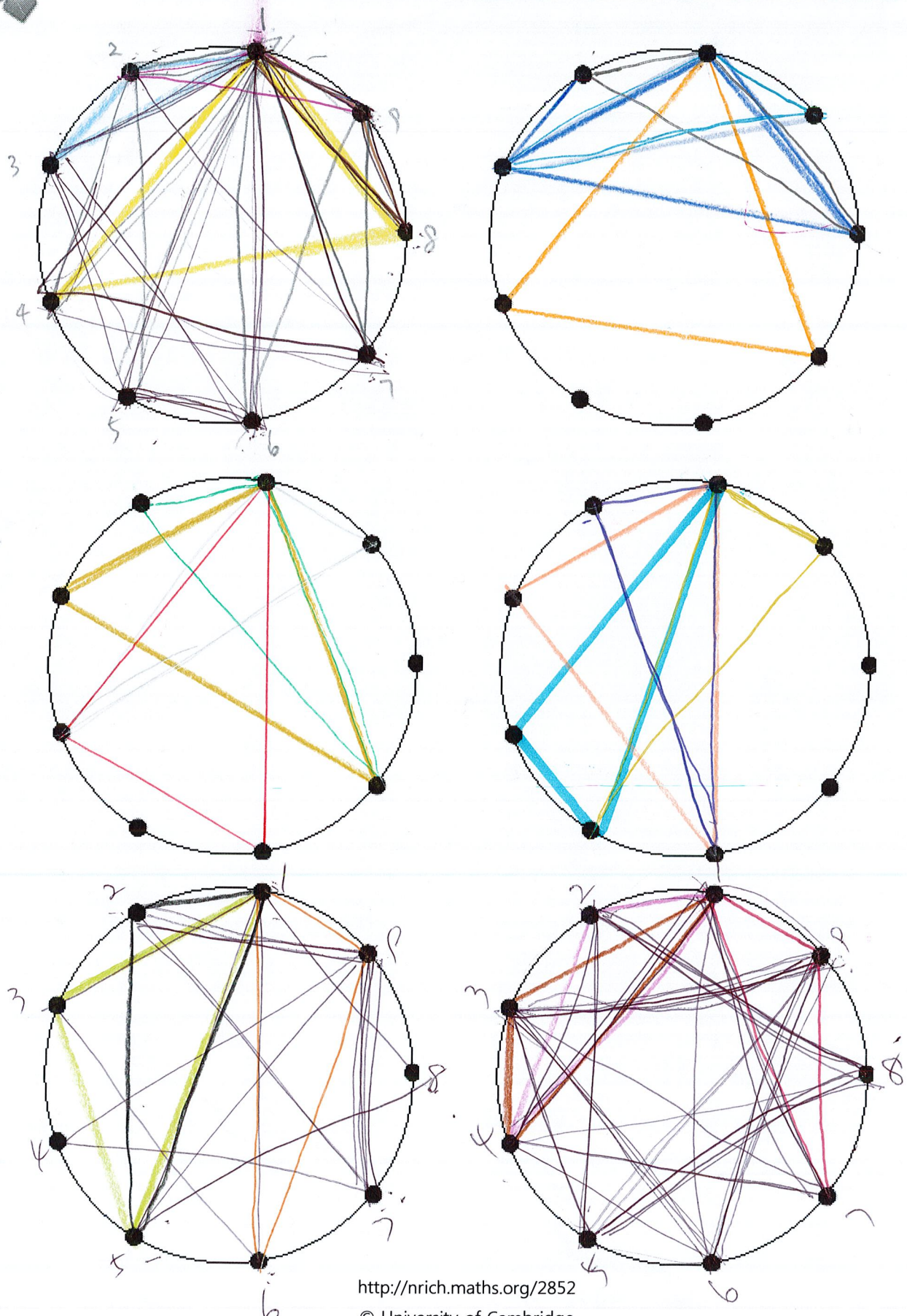
Citipointe Christian College

nrich

Nine-pin Triangles



http://nrich.maths.org/2852
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937

Nine-pin triangles

1.1 (1.2/1.9)(2.3/2.1)(3.4/3.2)(4.5/4.3)(5.6/5.4)(6.7/6.5)(7.8/7.6)(8.9/8.7)(9.1/9.8)
9

1.2 (1.2/1.8)(2.3/2.9)(3.4/3.1)(4.5/4.2)(5.6/5.3)(6.7/6.4)(7.8/7.5)(8.9/8.6)(9.1/9.7)
9

2.1 (1.3/1.9)(2.4/2.1)(3.5/3.2)(4.6/4.3)(5.7/5.4)(6.8/6.5)(7.9/7.6)(8.1/8.7)(9.2/9.8)
9

1.3 (1.2/1.7)(2.3/2.8)(3.4/3.9)(4.5/4.1)(5.6/5.2)(6.7/6.3)(7.8/7.4)(8.9/8.5)(9.1/9.6)
9

3.1 (1.4/1.9)(2.5/2.1)(3.6/3.2)(4.7/4.3)(5.8/5.4)(6.9/6.5)(7.1/7.6)(8.2/8.7)(9.3/9.8)
9

1.4 (1.2/1.6)(2.3/2.7)(3.4/3.8)(4.5/4.9)(5.6/5.1)(6.7/6.2)(7.8/7.3)(8.9/8.4)(9.1/9.5)
9

4.1 (1.5/1.9)(2.6/2.1)(3.7/3.2)(4.8/4.3)(5.9/5.4)(6.1/6.5)(7.2/7.6)(8.3/8.7)(9.4/9.8)
9

2.2 (1.3/1.8)(2.4/2.9)(3.5/3.1)(4.6/4.2)(5.7/5.3)(6.8/6.4)(7.9/7.5)(8.1/8.6)(9.2/9.7)
9

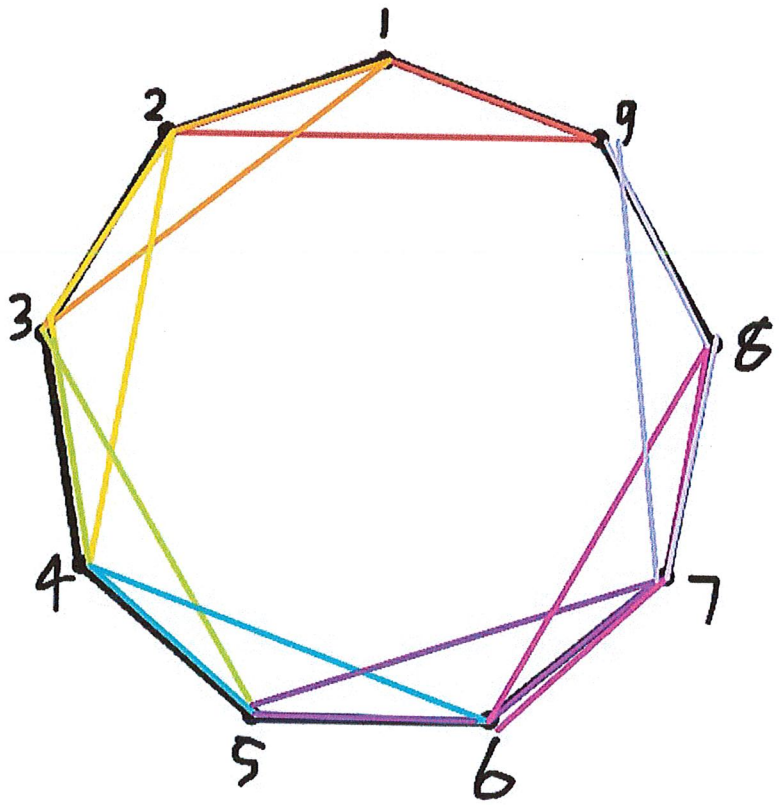
2.3 (1.3/1.7)(2.4/2.8)(3.5/3.9)(4.6/4.1)(5.7/5.2)(6.8/6.3)(7.9/7.4)(8.1/8.5)(9.2/9.6)
9

3.2 (1.4/1.8)(2.5/2.9)(3.6/3.1)(4.7/4.2)(5.8/5.3)(6.9/6.4)(7.1/7.5)(8.2/8.6)(9.3/9.7)
9

3.3 (1.4/1.7)(2.5/2.8)(3.6/3.9)
3

9x10+3=93

93 triangles



Claire Park
Citipointe Christian Collage

To make a triangle, you have to connect 3 pins on the circle.

You start from pin no.1 and connect it with pins 1 right and 1 left.
You repeat the pattern with all the other pins, now you have 9 triangles.

Next, you start from pin no.1 and connect it with pins 1 right and 2 left.
You repeat the pattern with all the other pins, now you have 9 triangles.

Then, you start from pin no.1 and connect it with 2 right and 1 left.
You repeat the pattern with all the other pins, now you have 9 triangles.

After that, you start from pin no.1 and connect it with pins 1 right and 3 left.
You repeat the pattern with all the other pins, now you have 9 triangles.

Then, you start from pin no. 1 and connect it with pins 3 right and 1 left.
You repeat the pattern with all the other pins, now you have 9 triangles.

Next, you start from pin no.1 and connect it with pins 1 right and 4 left.
You repeat the pattern with all the other pins, now you have 9 triangles.

After that, you start from pin no.1 and connect it with pins 4 right and 1 left.
You repeat the pattern with all the other pins, now you have 9 triangles.

You can't go any further away with the patterns because they make doubles.
And then, you start a new pattern.

You start from pin no.1 and connect it with pins 2 right and 2 left.
You repeat the pattern with all the other pins, now you have 9 triangles.

Next, you start from pin no.1 and connect it with pins 2 right and 3 left.
You repeat the pattern with all the other pins, now you have 9 triangles.

Then, you start from pin no.1 and connect it with pins 3 right and 2 left.
You repeat the pattern with all the other pins, now you have 9 triangles.

You can't go any further away with the patterns because they make doubles.
And then, you start a new pattern.

You start from pin no.1 and connect it with pins 3 right and 3 left.
You repeat the pattern with all the other pins, but you only have 3 triangles
because all other triangles are double.