

TÊTES BRÛLÉES

Défi maths n° 3 anglais CM2

The mystic rose.

We join every point to every other point on the circle.

1) We construct a 5 pointed mystic rose:
10 lines are required.2) We construct a 10 pointed mystic rose:
It is difficult to count how many lines are required:
45 lines are required.3) We construct a 3, 4, 6, 7, 8 and 9 pointed mystic roses
We construct another 10 pointed mystic rose.

We use different colours

We join a point to every other point with a colour

We change the colour when we change the point

It's more easy to count the lines

a 3 pointed mystic rose : 3 lines

4 " " " : 6 lines

6 " " " : 15 lines

7 " " " : 21 lines

8 " " " : 28 lines

9 " " " : 36 lines

We write the numbers in a table.
wrote

Answers

We see:

for 3 points: 3 lines

for 4 points: $3 + 3 = 6$ lines

for 5 points: $6 + 4 = 10$ lines

for 6 points: $10 + 5 = 15$ lines

for 7 points: $15 + 6 = 21$ lines

....

After we continued the table with 11, 12, 13, 14, 15, 16, 18, 19 and 20 pointed mystic rose.

The rule is:

number of lines + number of points on the circle
= number of lines for the next circle

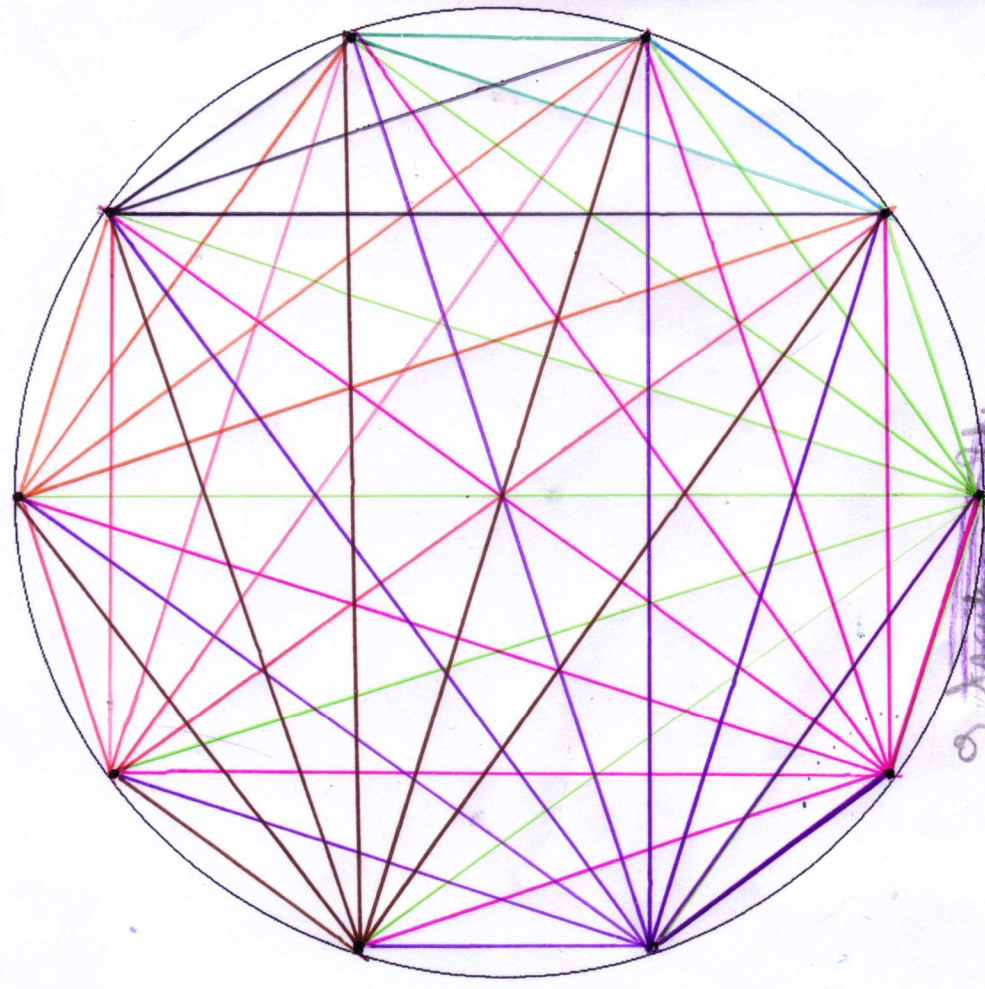
or $1 + 2 + 3 + 4 + 5 + 6 + \dots +$ points on the circle before
= number of lines for this circle

In the end we construct a 20 pointed mystic rose.
It's impossible to count the lines
but it is so beautiful.

Our teacher try to translate our work

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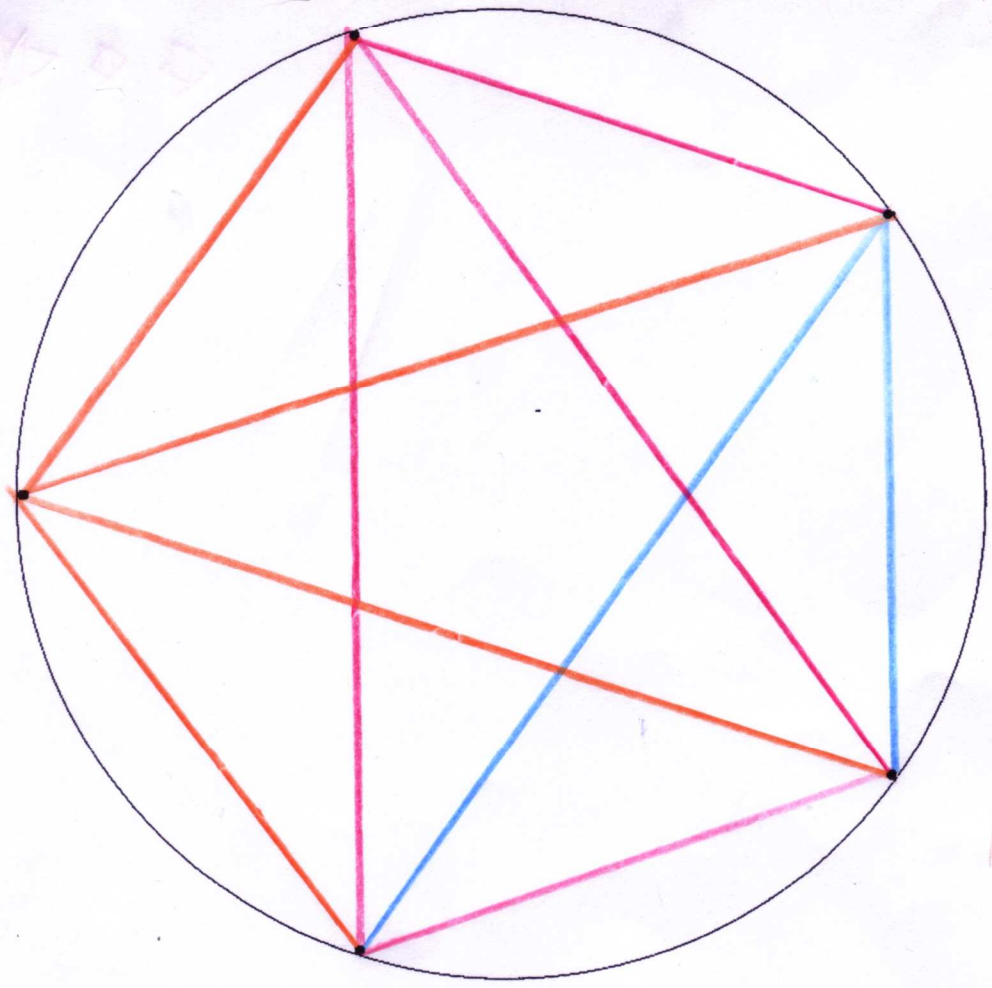
TÊTES 10 points BRÛLÉES



- 9 traits roses
- 8 traits roses
- 7 traits verts
- 6 traits marron
- 5 traits oranges
- 4 traits oranges
- 3 traits marron
- 2 traits roses
- 1 trait rose foncé

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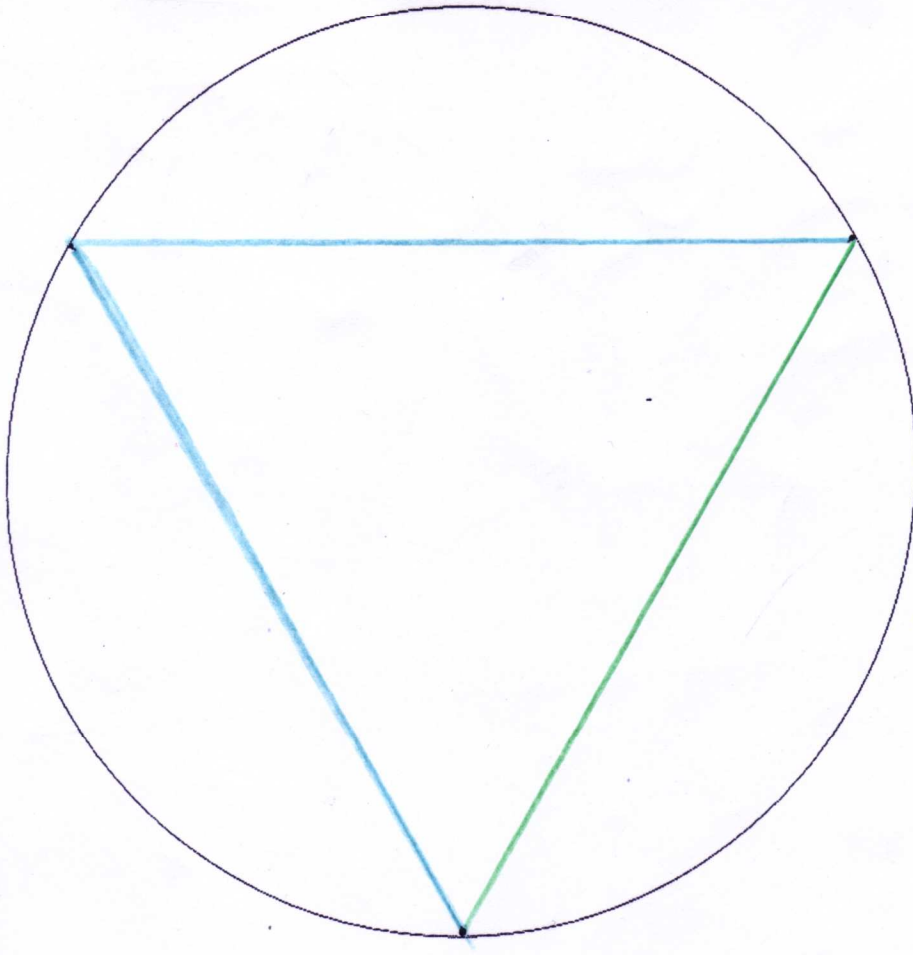
TÊTES 5 points BRÛLÉES



- 4 traits oranges
- 3 traits rose foncé
- 2 traits bleu
- 1 trait rose clair

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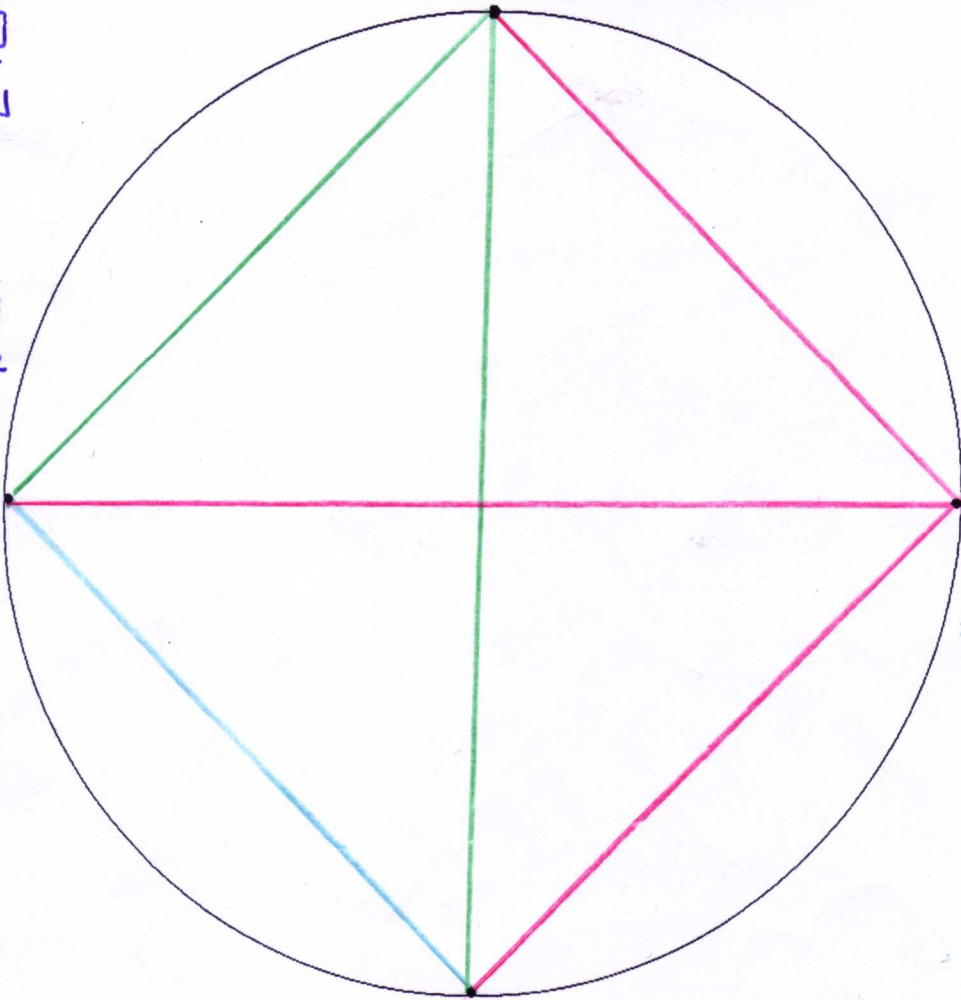
3 points



2 traits bleu.
 1 trait vert.
 = 3 traits.

TÊTES BRÛLÉES

4 points

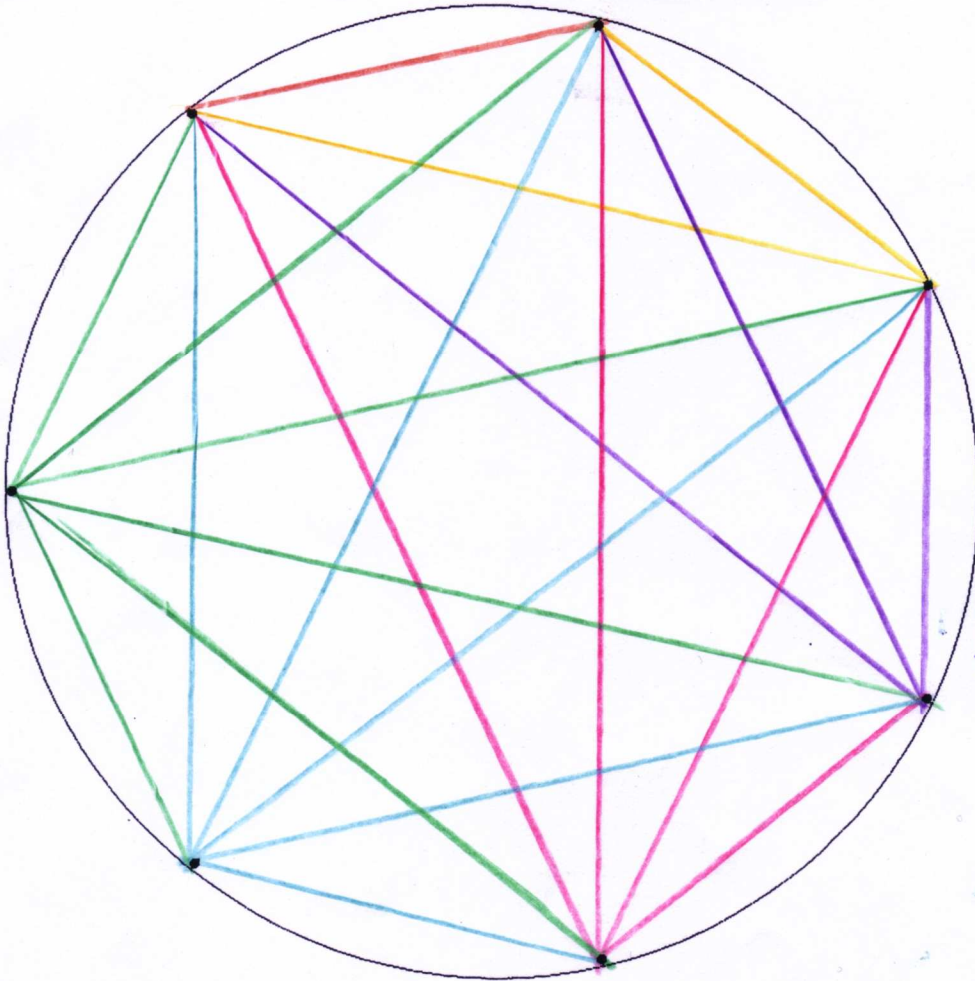


3 traits rose.
 2 traits vert.
 1 trait bleu.
 = 6 traits.

TÊTES

7 points

TÊTES

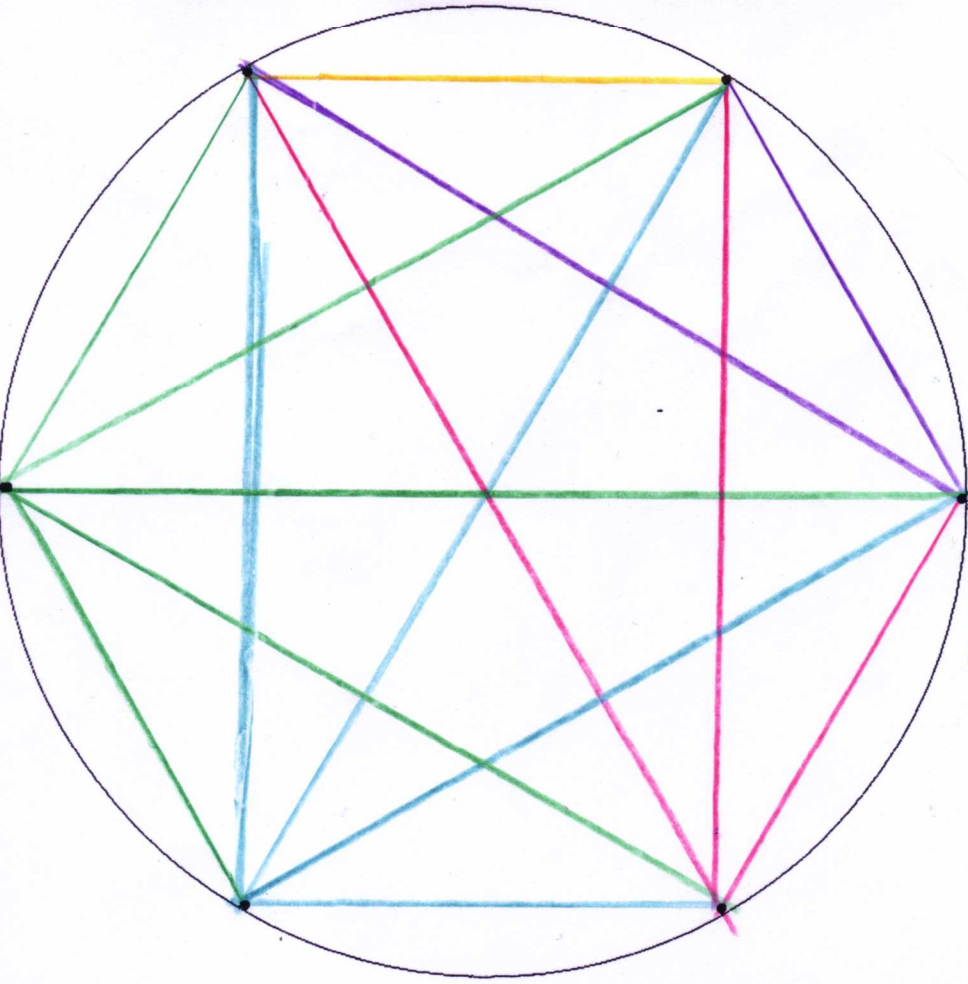


6 traits vert.
 5 traits bleu.
 4 traits rose.
 3 traits violet.
 2 traits jaune.
 1 trait brun. = 21 traits.

BRÛLÉES

6 points

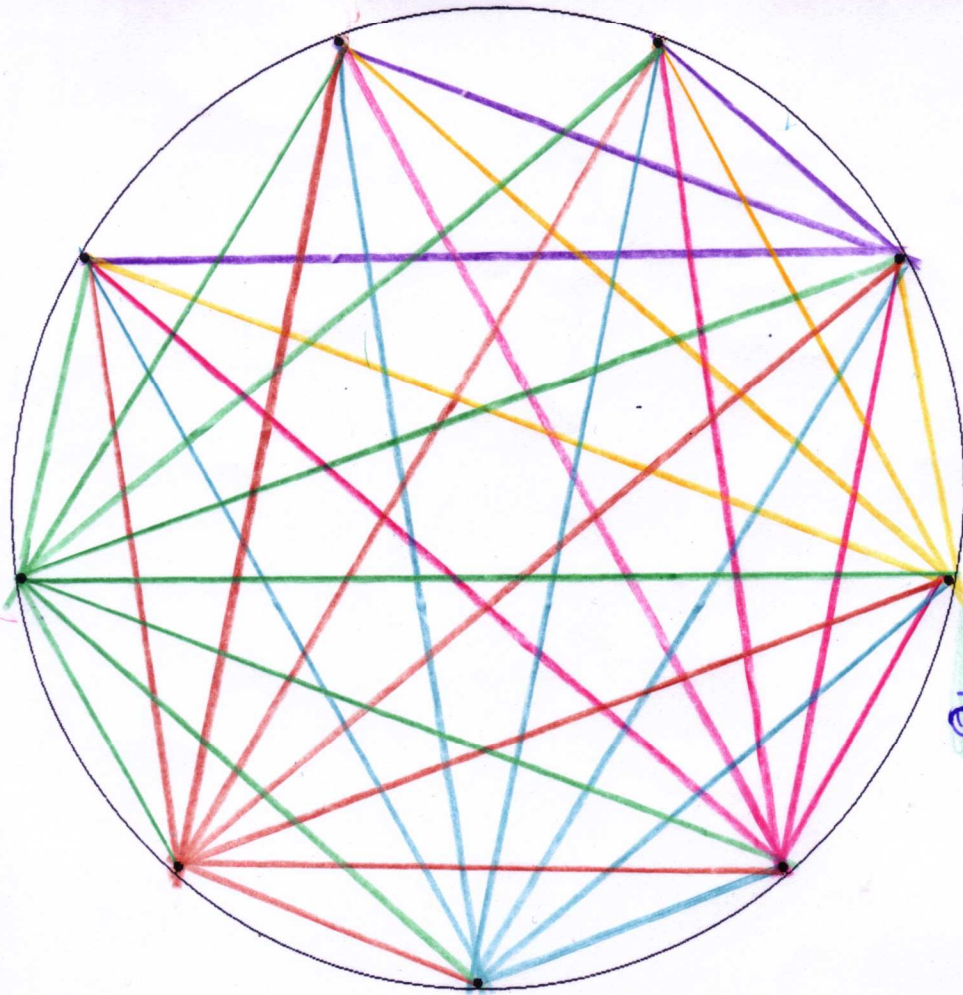
5/8



5 traits vert.
 4 traits bleu.
 3 traits rose.
 2 traits jaune.
 1 trait brun. = 15 traits.

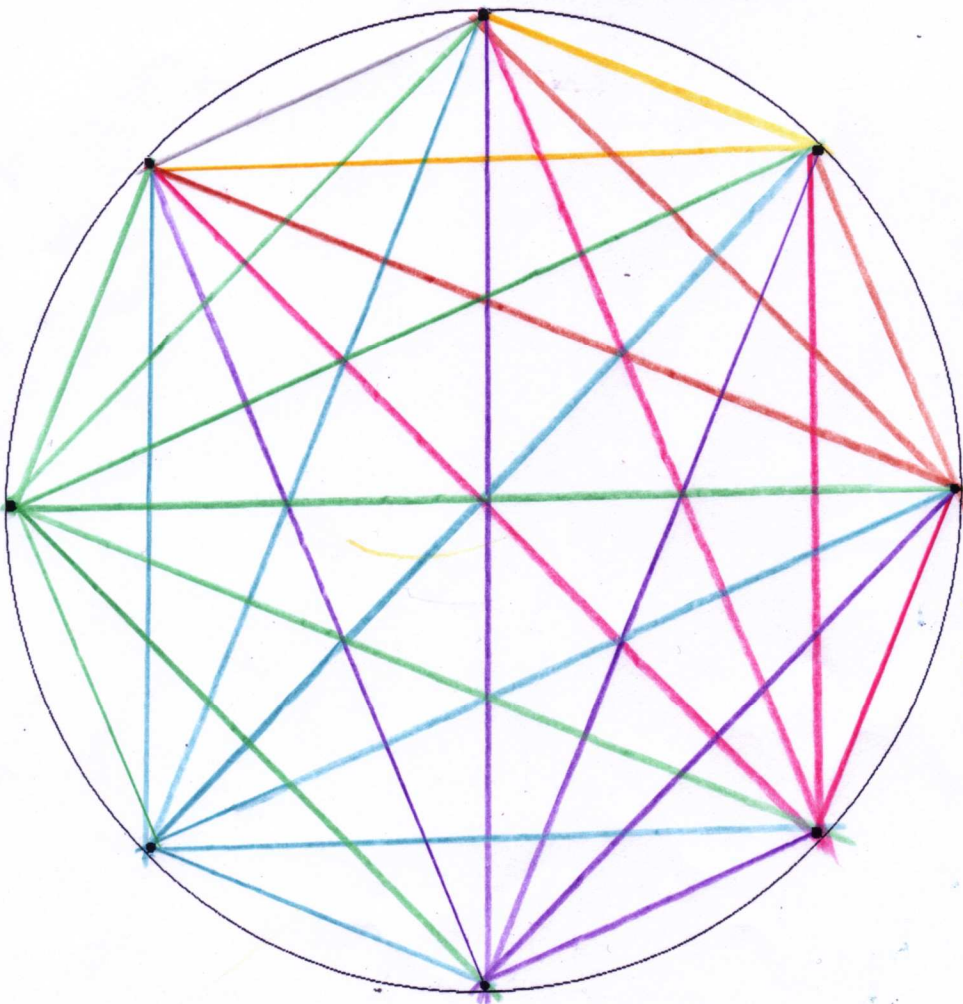
TÊTES BRÛLÉES

5 points



8 traits vert.
 7 traits brun.
 6 traits bleu.
 5 traits rose.
 4 traits jaune.
 3 traits violet.
 2 traits gris.
 1 trait orange.
 = 36 traits.

8 points



7 traits vert.
 6 traits bleu.
 5 traits violet.
 4 traits rose.
 3 traits brun.
 2 traits jaune.
 1 trait gris.
 = 28 traits.

TÊTES BRÛLÉES

Hugo

Échelle points	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
traits	3	6	10	15	21	28	36	45	55	66	78	91	105	120	136	153	171	190

points ③ = 2 traits vert + 1 trait vert = 2+1=3 traits.

④ points = 3 traits rose + 2 traits vert + 1 traits bleu = 3+2+1=6 traits.

⑥ points = 5 traits vert + 4 traits bleu + 3 traits rose + 2 traits violet + 1 trait jaune = 5+4+3+2+1=15 traits.

⑦ points = 6 traits vert + 5 traits bleu + 4 traits rose + 3 traits violet + 2 traits jaune + 1 trait brun = 6+5+4+3+2+1=21 traits.

⑧ points = 7 traits vert + 6 traits bleu + 5 traits violet + 4 traits rose + 3 traits brun + 2 traits jaune + 1 trait gris = 7+6+5+4+3+2+1=28 traits.

⑨ points = 8 traits vert + 7 traits brun + 6 traits bleu + 5 traits rose + 4 traits jaune + 3 traits violet + 2 traits gris + 1 trait orange = 8+7+6+5+4+3+2+1=36 traits.

⑩ points = 9 traits violet + 8 traits rose + 7 traits vert + 6 traits marron + 5 traits rouge + 4 traits orange + 3 traits noir + 2 traits vert foncé + 1 trait bleu = 9+8+7+6+5+4+3+2+1=45 traits.

TÊTES BRÛLÉES

Défi maths n°3 anglais CH2

points on the code	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
number of lines	3	6	10	15	21	28	36	45	55	66	78	91	105	120	136	153	171	190
	3 2 1	4 3 2 1	5 4 3 2 1	6 5 4 3 2 1	7 6 5 4 3 2 1	8 7 6 5 4 3 2 1	9 8 7 6 5 4 3 2 1	10 9 8 7 6 5 4 3 2 1	11 10 9 8 7 6 5 4 3 2 1	12 11 10 9 8 7 6 5 4 3 2 1	13 12 11 10 9 8 7 6 5 4 3 2 1	14 13 12 11 10 9 8 7 6 5 4 3 2 1	15 14 13 12 11 10 9 8 7 6 5 4 3 2 1	16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1	17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1	18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1	19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1	20