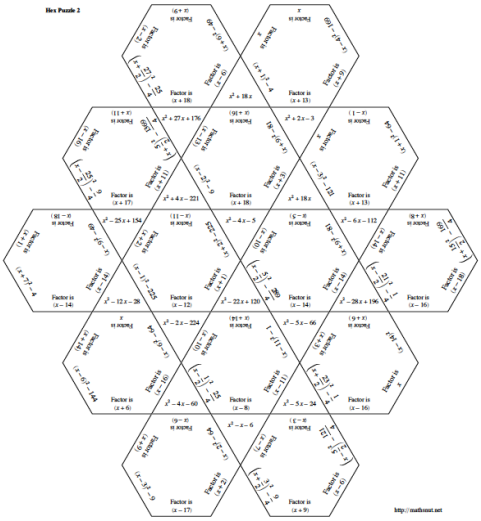
HexPuzzles
Factorising quadratic expressions



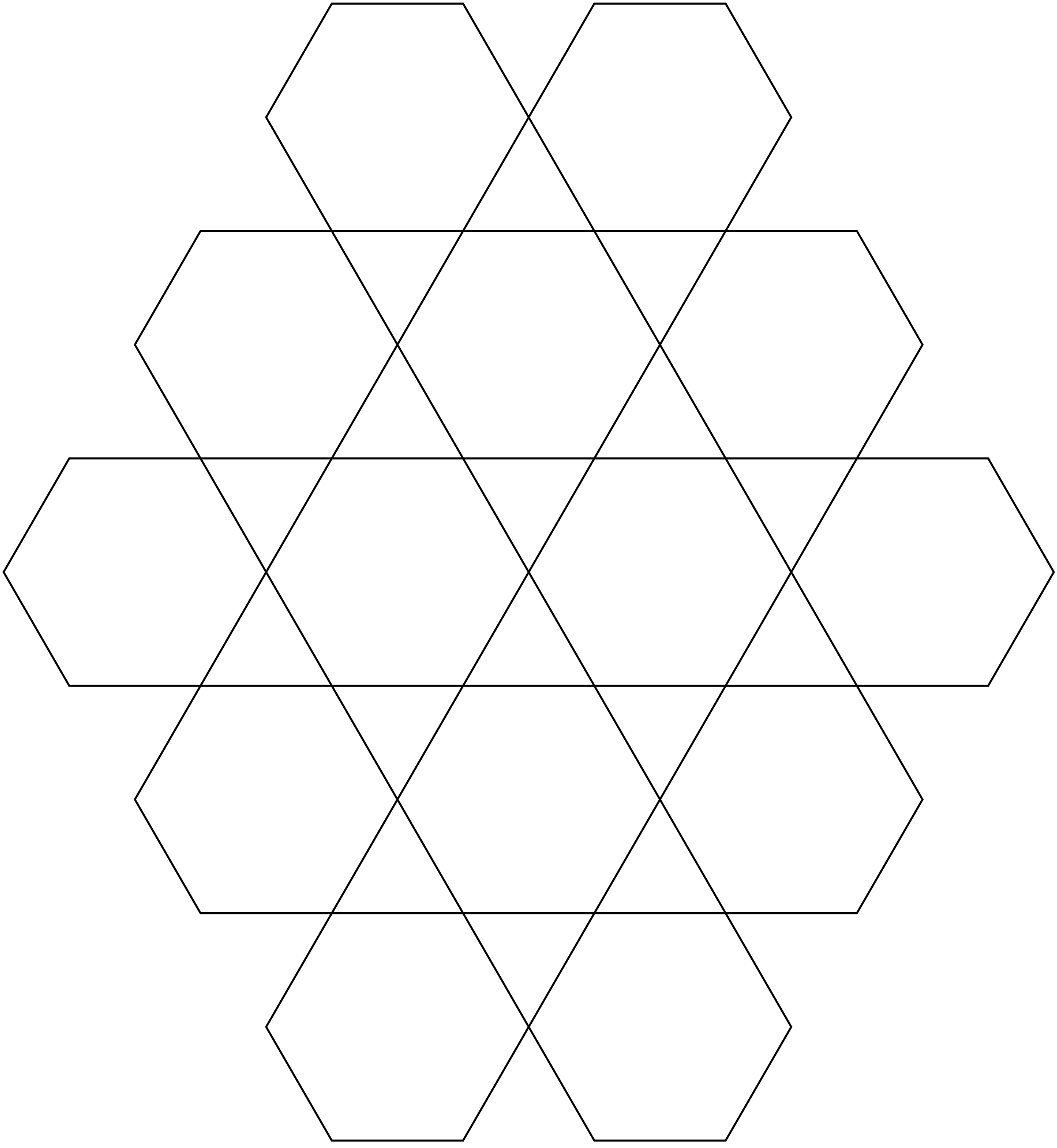
This document contains:

- A blank HexPuzzle template, which students may find useful when assembling their HexPuzzle;
- 50 different HexPuzzles.

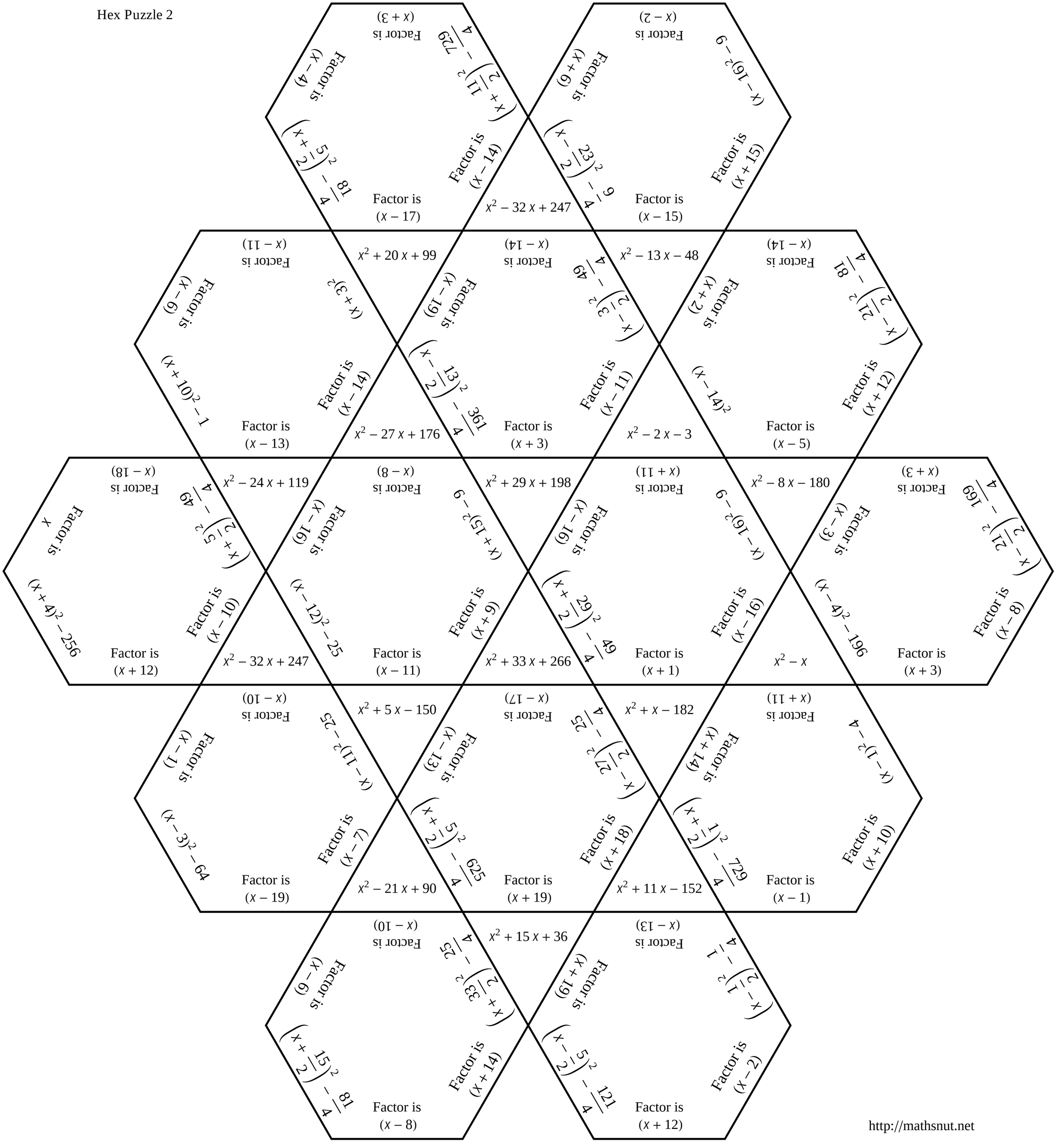
Instructions:

- Students can either work individually, or in a small group (suggested maximum: 4 students).
- Give each group a (different) HexPuzzle.
  These pages can be printed on A4 paper, but it is better to print on A3 or larger.
- The 14 hexagons and 16 triangles should be cut out.
- Rearrange the hexagons and triangles, so that the sides of the hexagons are adjacent to the triangle which has that property (i.e. the factor on the hexagon is a factor of the quadratic expression in the triangle, or the completed square/turning point form is equivalent to the quadratic expression).
- The HexPuzzle will rearrange into the original shape.

J Coventry, August 2014



Hex Puzzle 2



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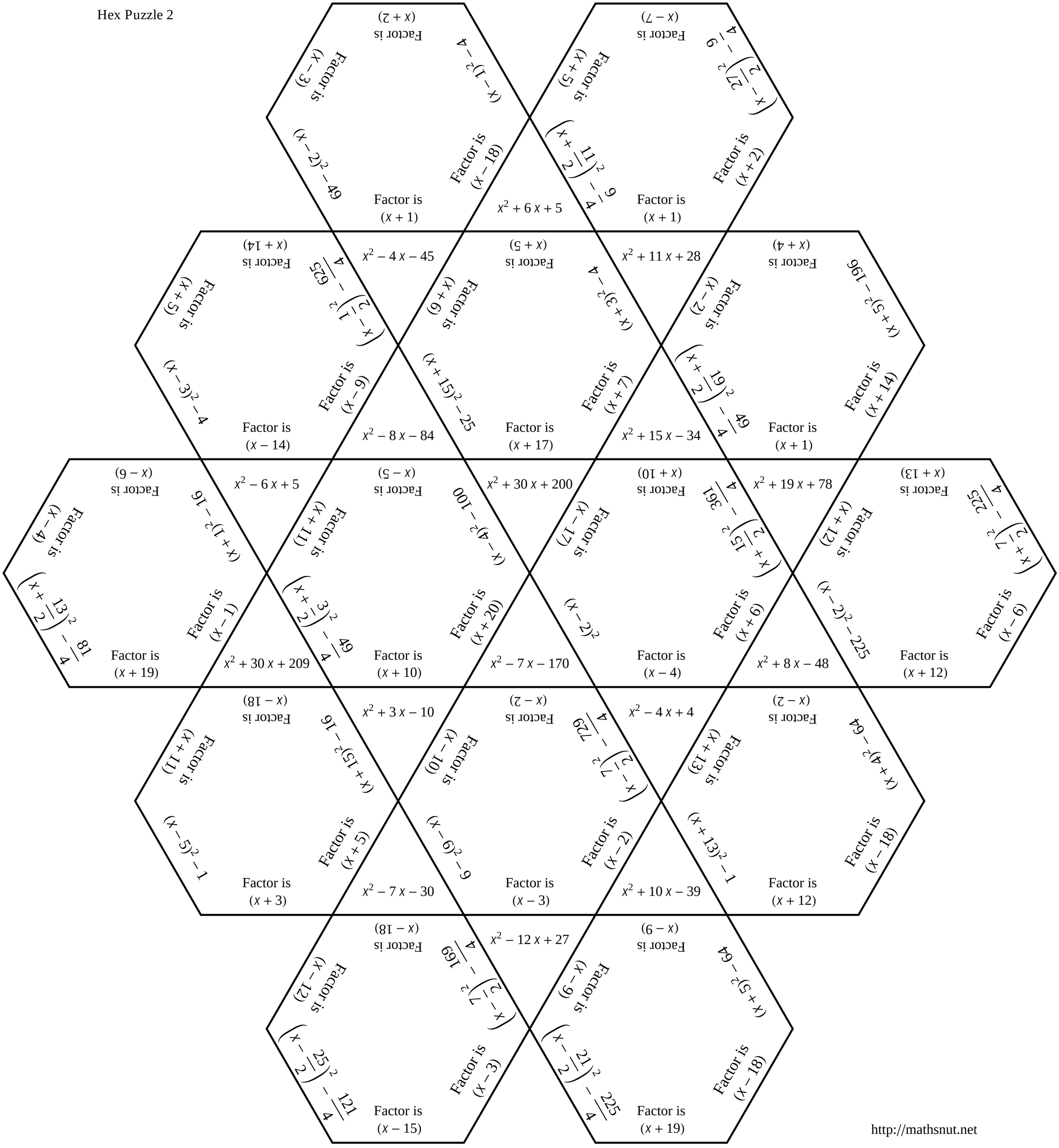
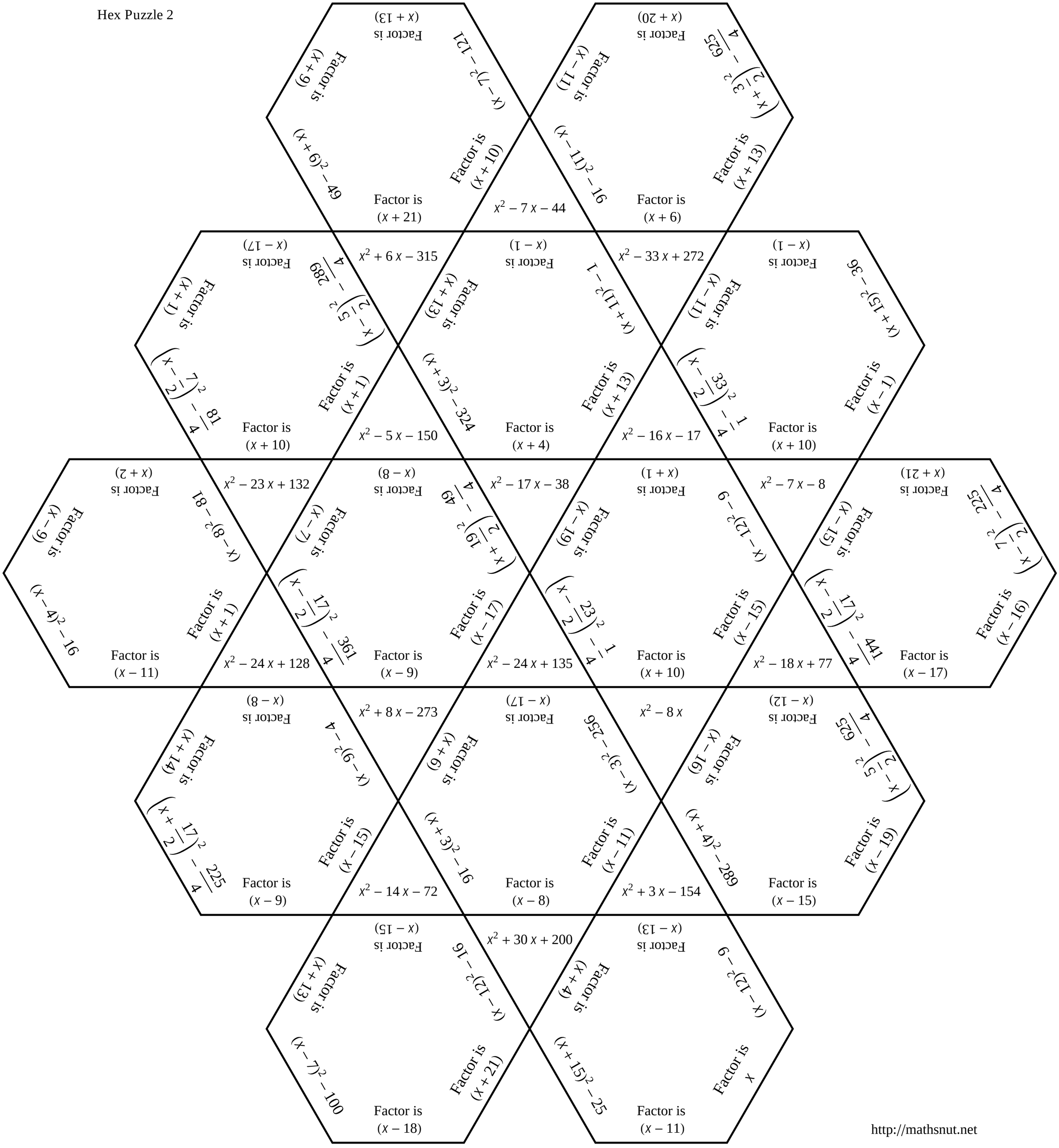
Hex Puzzle 2



Hex Puzzle 2



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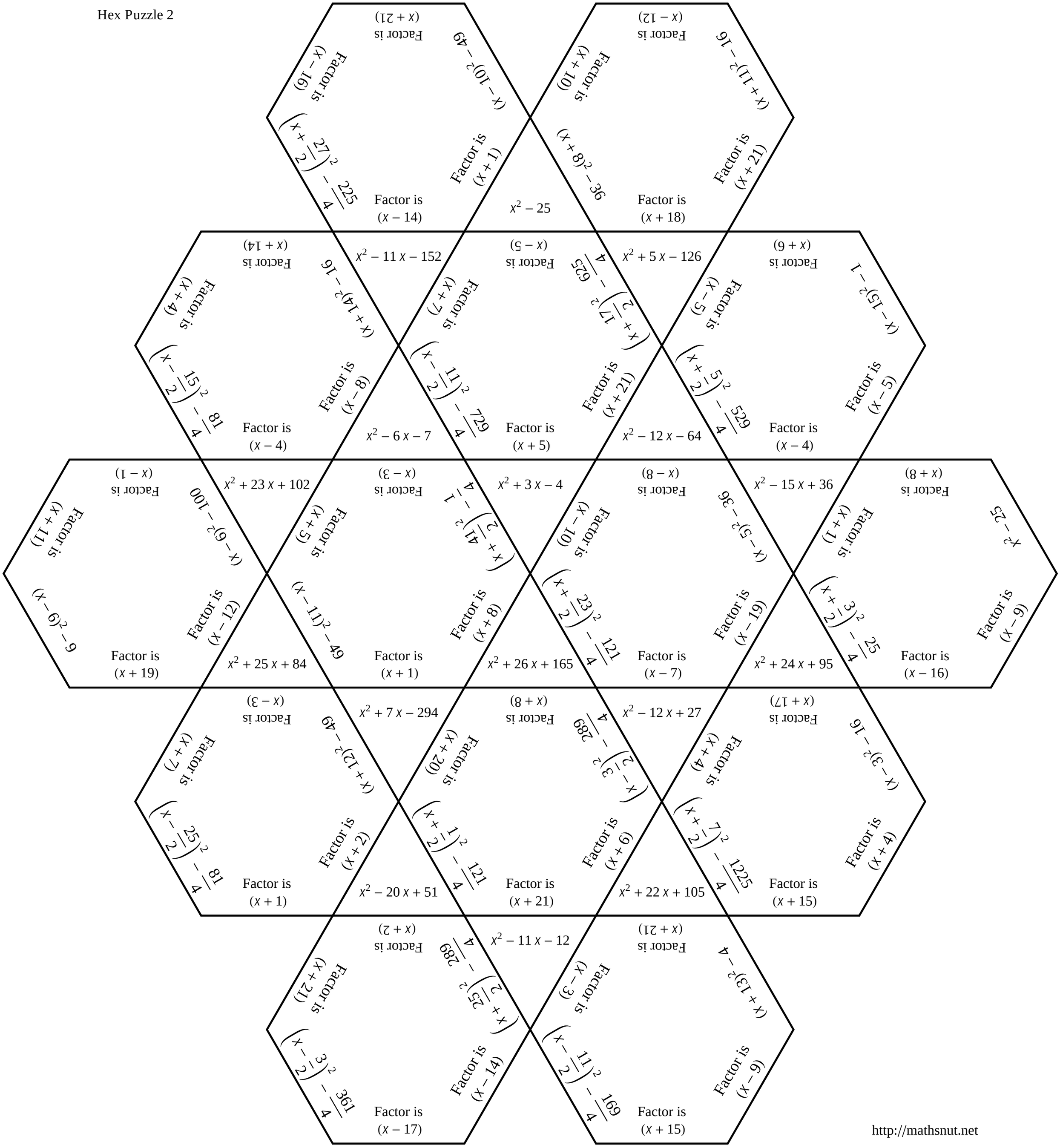

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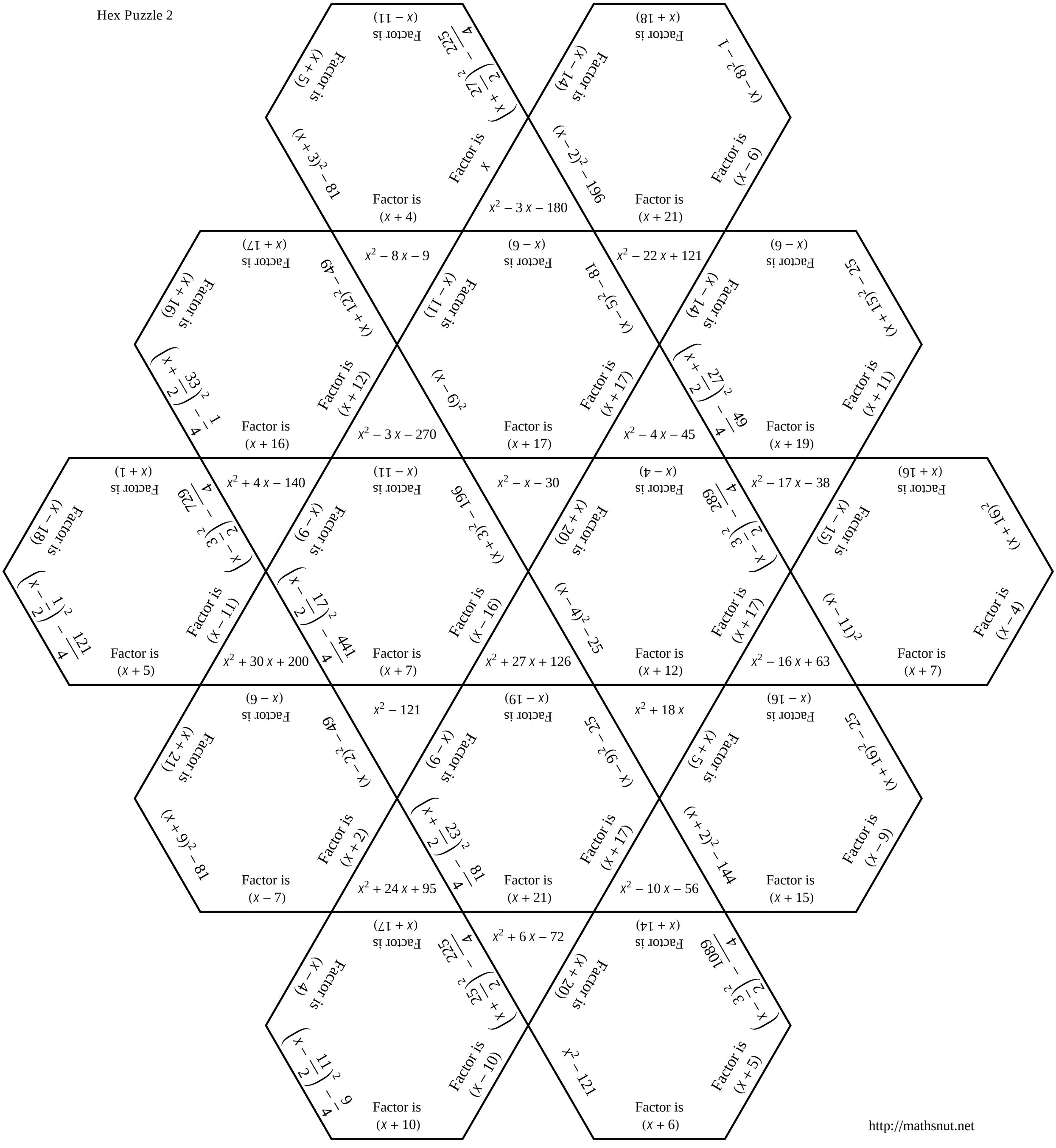

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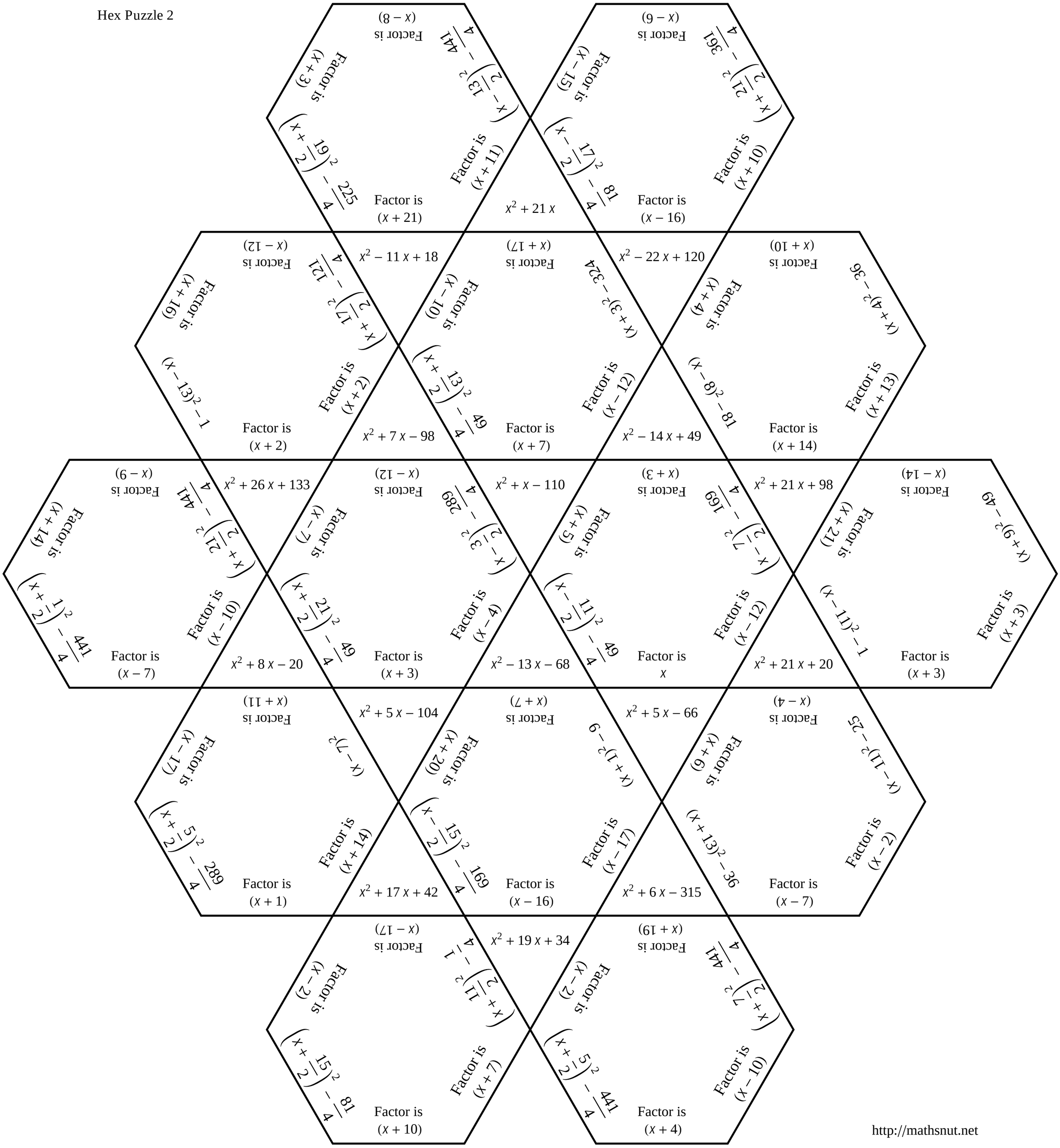
Hex Puzzle 2



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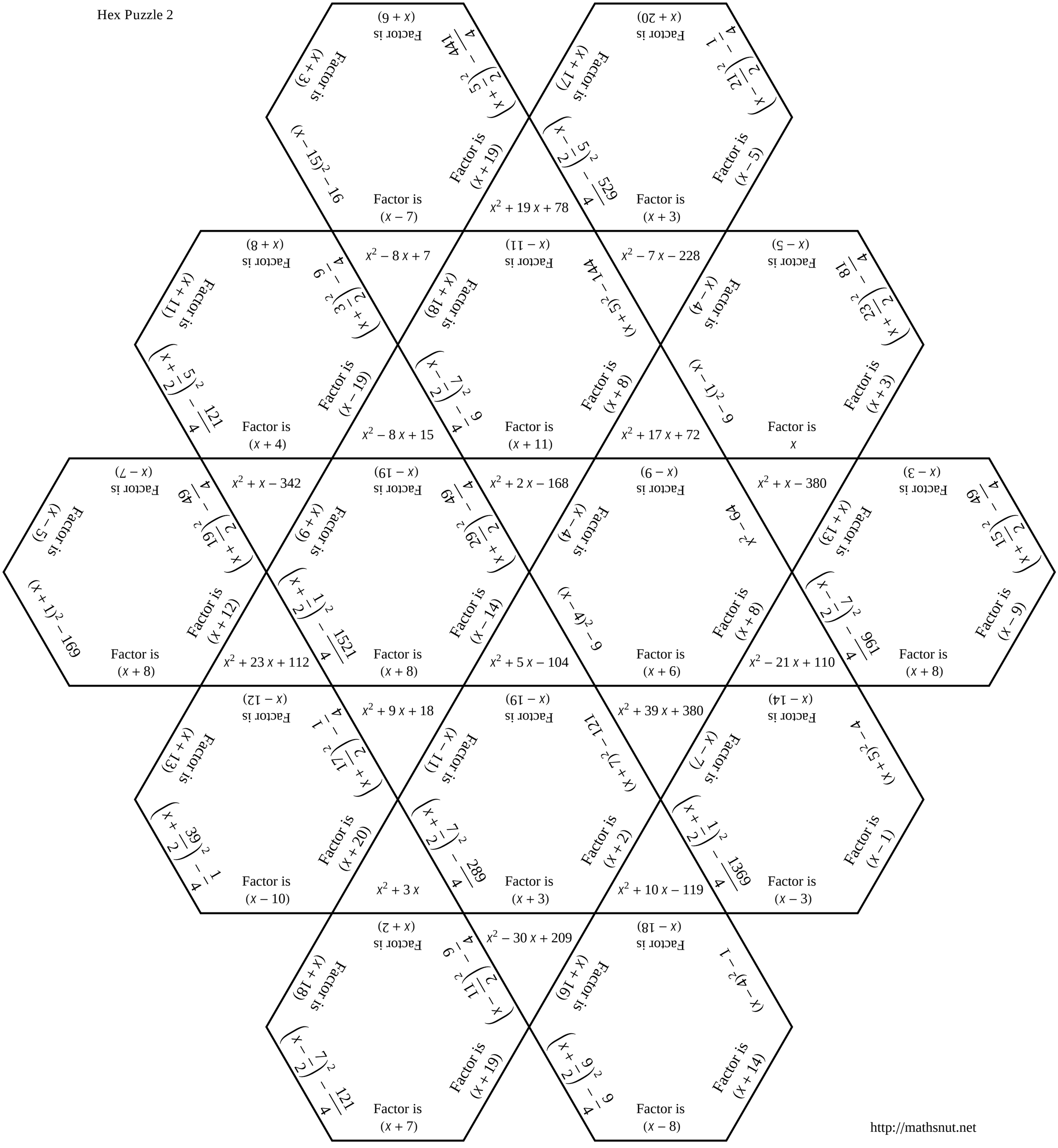
Hex Puzzle 2


Factor is (x + 6)
(x + 6)
Factor is (x + 3)
Factor is (x − 15)² − 16
Factor is (x + 19)
Factor is (x + 20)
Factor is (x + 17)
Factor is (x − 5)
Factor is (x − 7)
Factor is (x + 8)
Factor is (x + 11)
Factor is (x + 1)² − 169
Factor is (x + 12)
Factor is (x + 4)
Factor is (x + 5)
Factor is (x − 5)
Factor is (x − 11)
Factor is (x + 18)
Factor is (x − 19)
Factor is (x + 9)
Factor is (x − 14)
Factor is (x + 8)
Factor is (x − 4)
Factor is (x − 4)
Factor is (x + 13)
Factor is (x + 8)
Factor is (x − 9)
Factor is (x − 3)
Factor is (x − 19)
Factor is (x − 12)
Factor is (x + 13)
Factor is (x + 20)
Factor is (x − 10)
Factor is (x + 2)
Factor is (x + 16)
Factor is (x + 14)
Factor is (x + 7)
Factor is (x − 8)
Factor is (x − 1)
Factor is (x − 3)
Factor is x
Factor is (x + 3)
Factor is (x + 8)
Factor is (x + 6)
Factor is (x + 8)
Factor is (x + 8)
Factor is (x + 11)
Factor is (x + 4)
x² − 8 x + 7
x² − 8 x + 15
x² + x − 342
x² + 23 x + 112
x² + 9 x + 18
x² + 3 x
x² + 19 x + 78
Factor is (x − 11)
Factor is (x + 11)
Factor is (x − 19)
Factor is (x + 2)
x² − 7 x − 228
x² + 17 x + 72
x² + 2 x − 168
x² + 5 x − 104
x² + 39 x + 380
x² − 30 x + 209
Factor is (x + 5)² − 144
Factor is (x + 8)
Factor is (x − 19)
Factor is (x + 7)² − 121
Factor is (x + 5)² − 4
Factor is (x − 1)² − 9
Factor is (x − 4)² − 9
Factor is (x + 8)
Factor is (x + 7)² − 121
Factor is (x − 7)
Factor is (x + 16)
Factor is (x − 4)² − 1
Factor is (x + 8)
Factor is (x − 9)
Factor is (x + 14)
x² − 64
x² − 7 x − 228
x² − 21 x + 110
x² + 39 x + 380
x² + 10 x − 119
Factor is (x − 14)
Factor is (x − 4)
Factor is (x + 13)
Factor is (x + 8)
Factor is (x − 9)
Factor is (x − 3)
Factor is (x − 1)
Factor is (x − 3)
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Factor is (x + 3)
Factor is (x + 8)
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Factor is (x + 8)
Factor is (x + 11)
Factor is (x + 4)
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(x + 20)
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(x + 8)
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(x − 14)
(x − 19)
(x − 9)
(x − 3)
(x + 2)
(x − 18)
(x + 1)² − 169
Factor is (x + 12)
Factor is (x + 20)
Factor is (x + 19)
Factor is (x + 14)
Factor is (x − 10)
Factor is (x + 3)
Factor is (x + 7)
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Factor is (x + 11)
Factor is (x + 4)
Factor is (x + 5)
Factor is (x − 5)
Factor is (x − 7)
Factor is (x + 8)
Factor is (x + 1)
Factor is (x − 1)
Factor is (x − 3)
Factor is (x − 7)
Factor is (x + 8)
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Factor is (x + 8)
Factor is (x + 8)
Factor is (x + 11)
Factor is (x + 4)
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(x − 7)
(x − 19)
(x + 9)
(x − 4)
(x + 13)
(x − 9)
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(x − 10)
(x + 2)
(x + 16)
(x + 14)
(x + 7)
(x − 8)
(x + 1)² − 169
Factor is (x + 12)
Factor is (x + 20)
Factor is (x + 19)
Factor is (x + 14)
Factor is (x − 10)
Factor is (x + 3)
Factor is (x + 7)
Factor is (x − 8)
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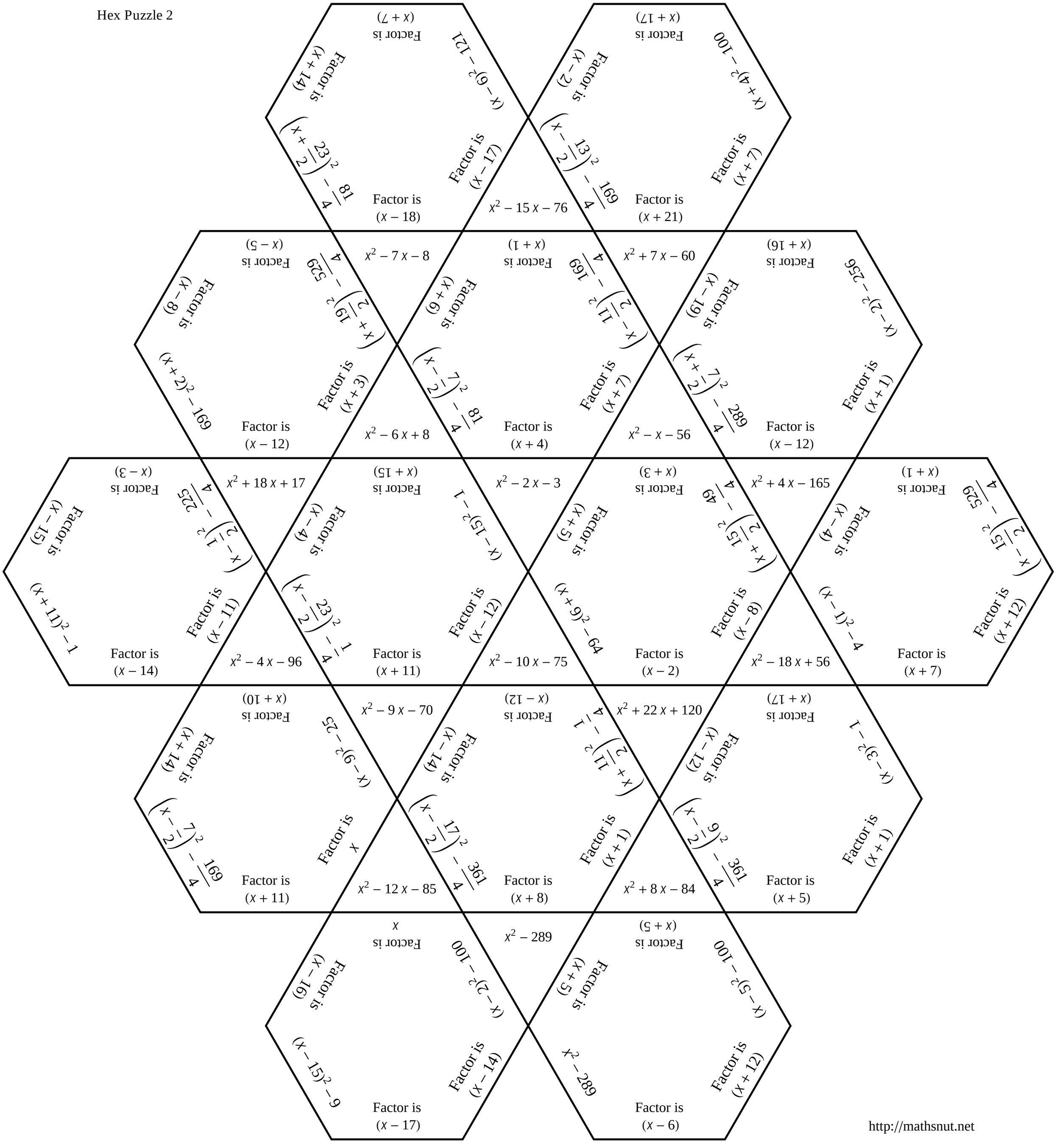
Hex Puzzle 2



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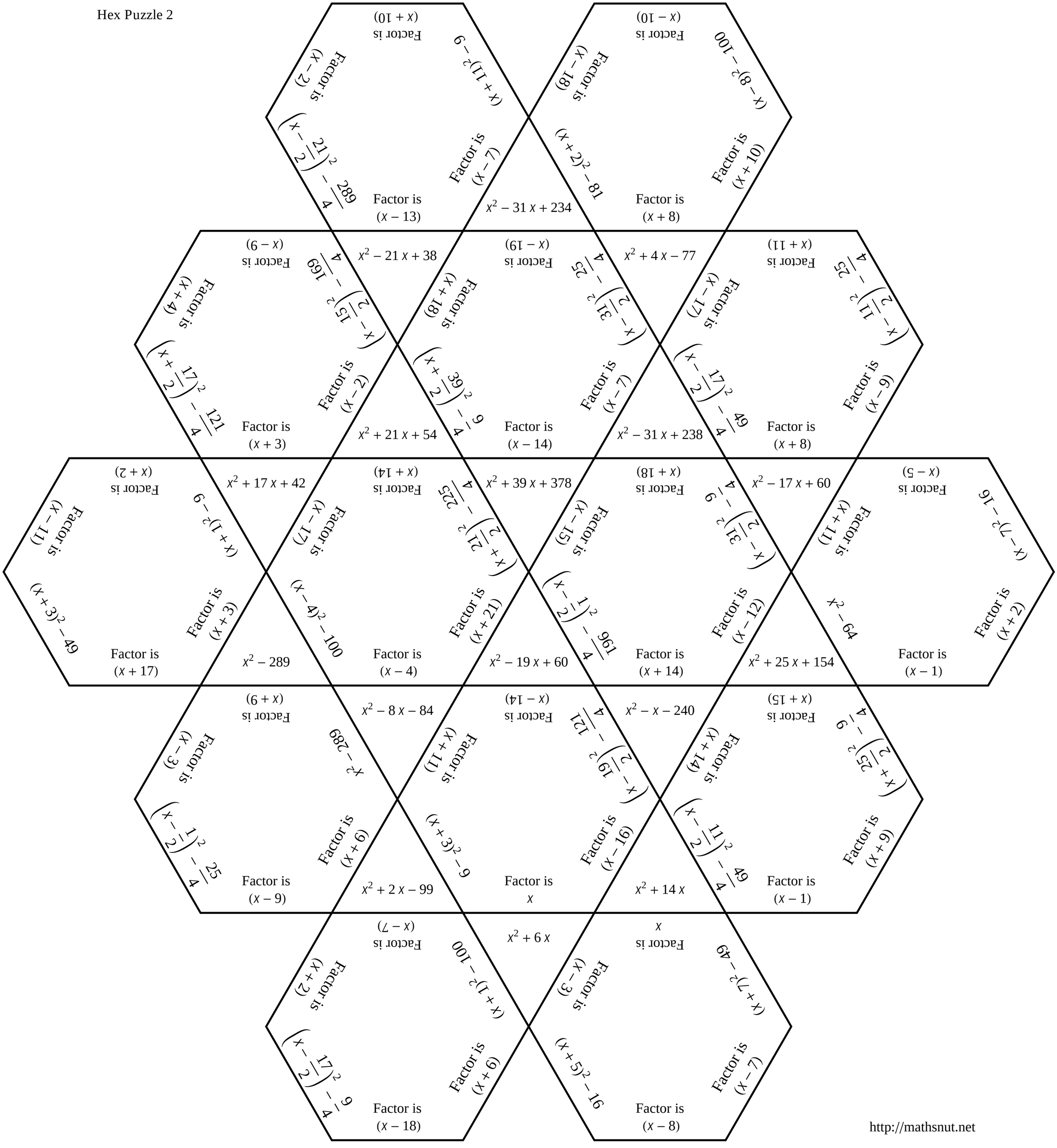

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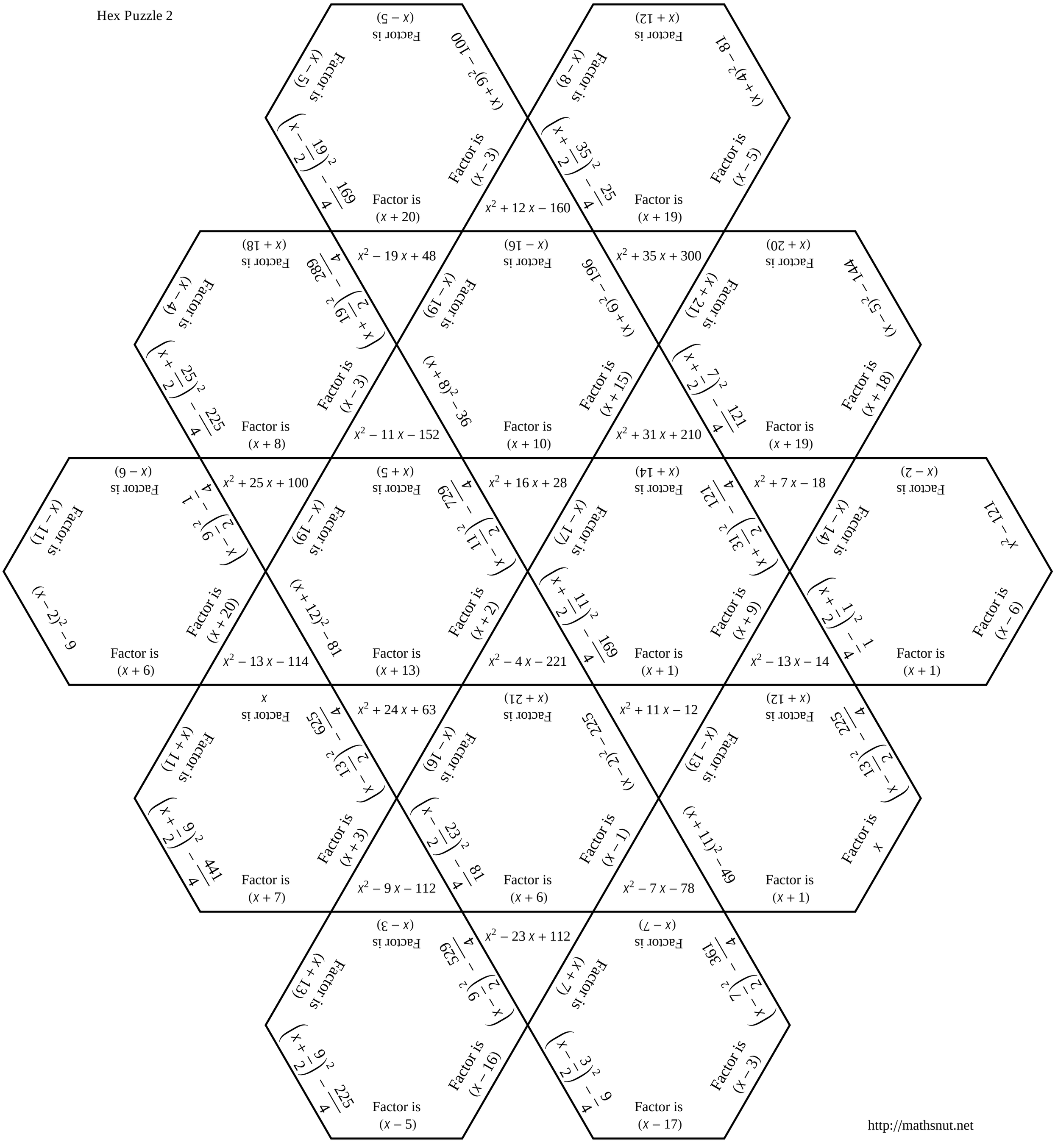

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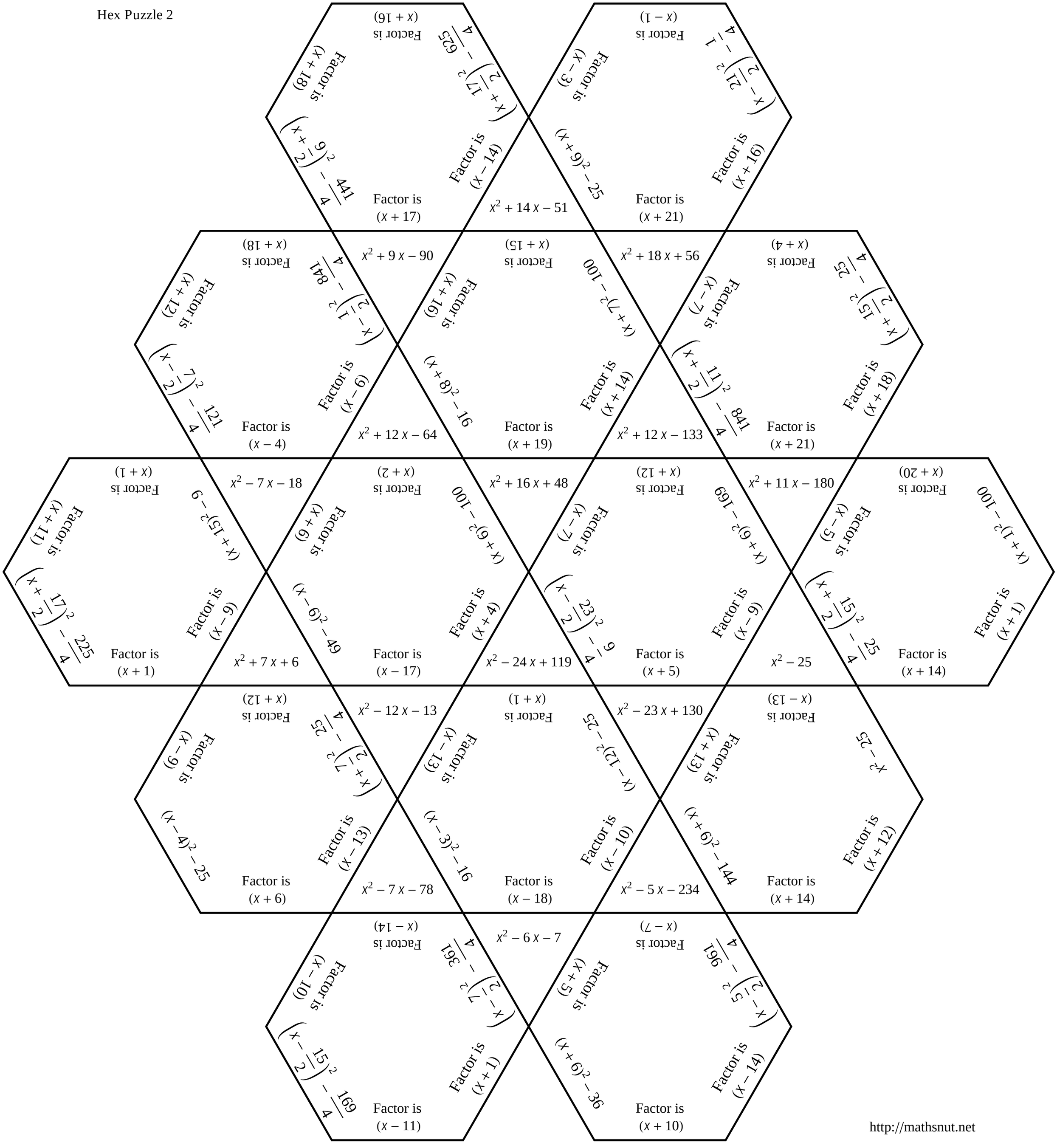
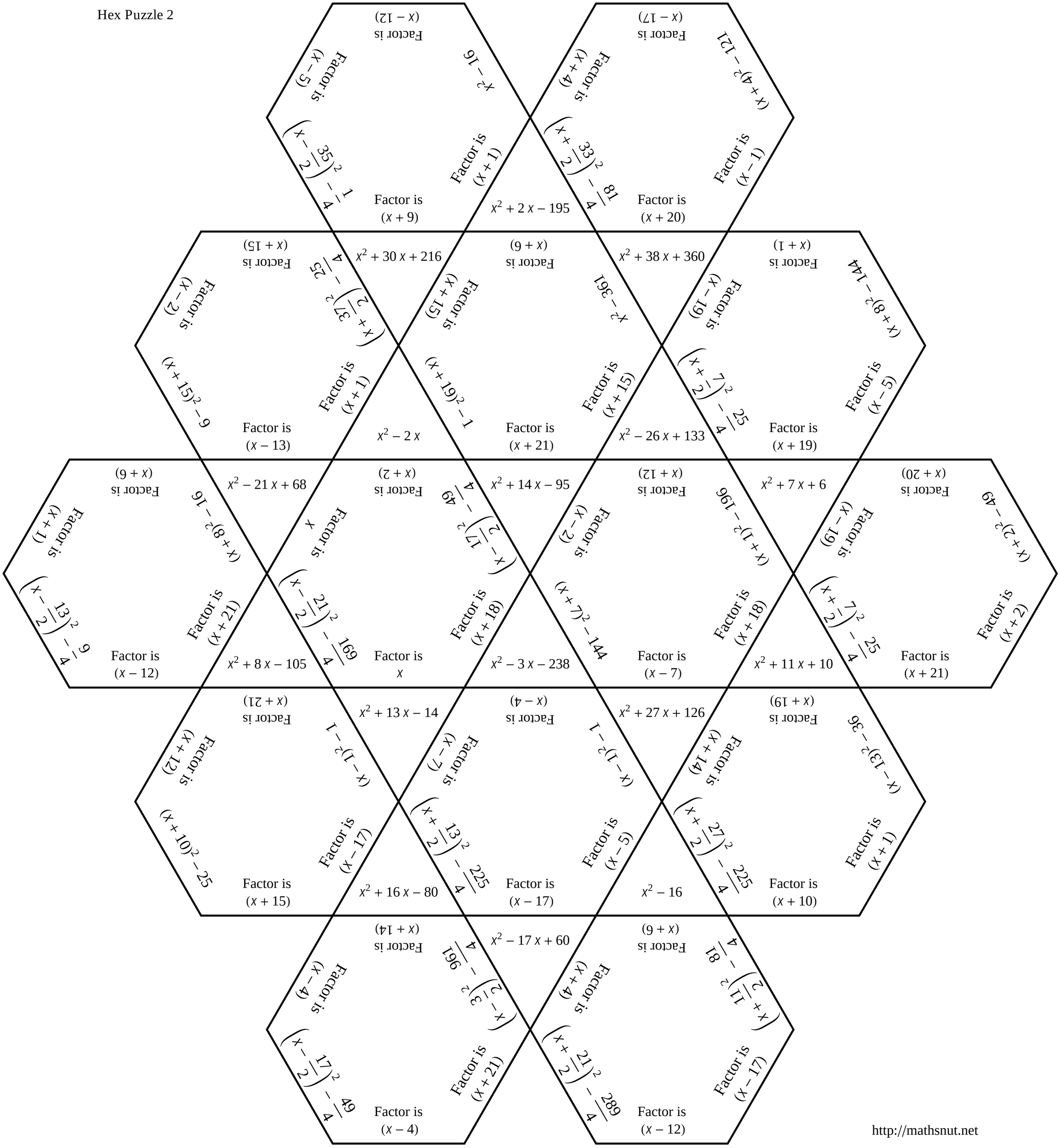
Hex Puzzle 2



Hex Puzzle 2



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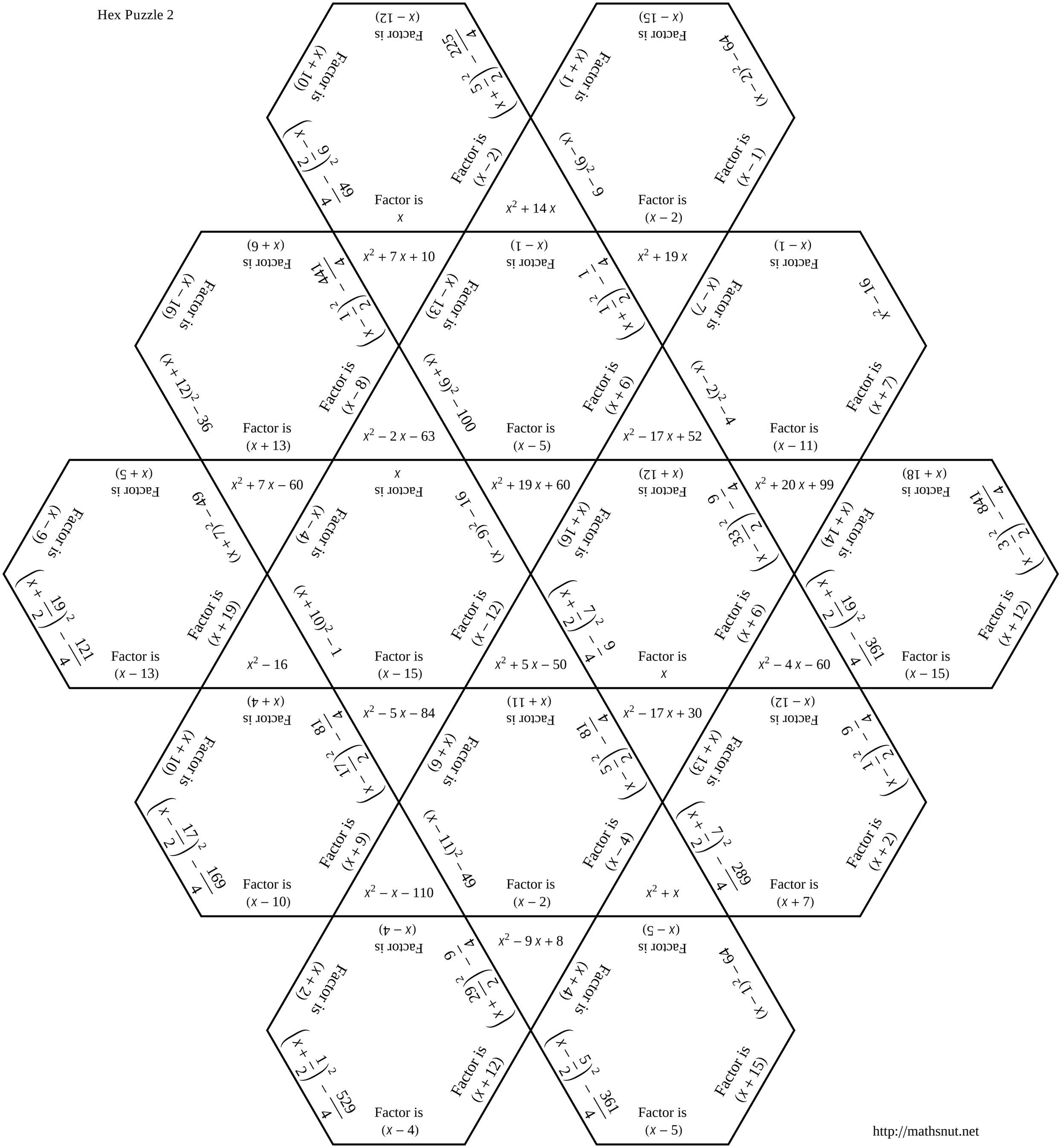
Hex Puzzle 2



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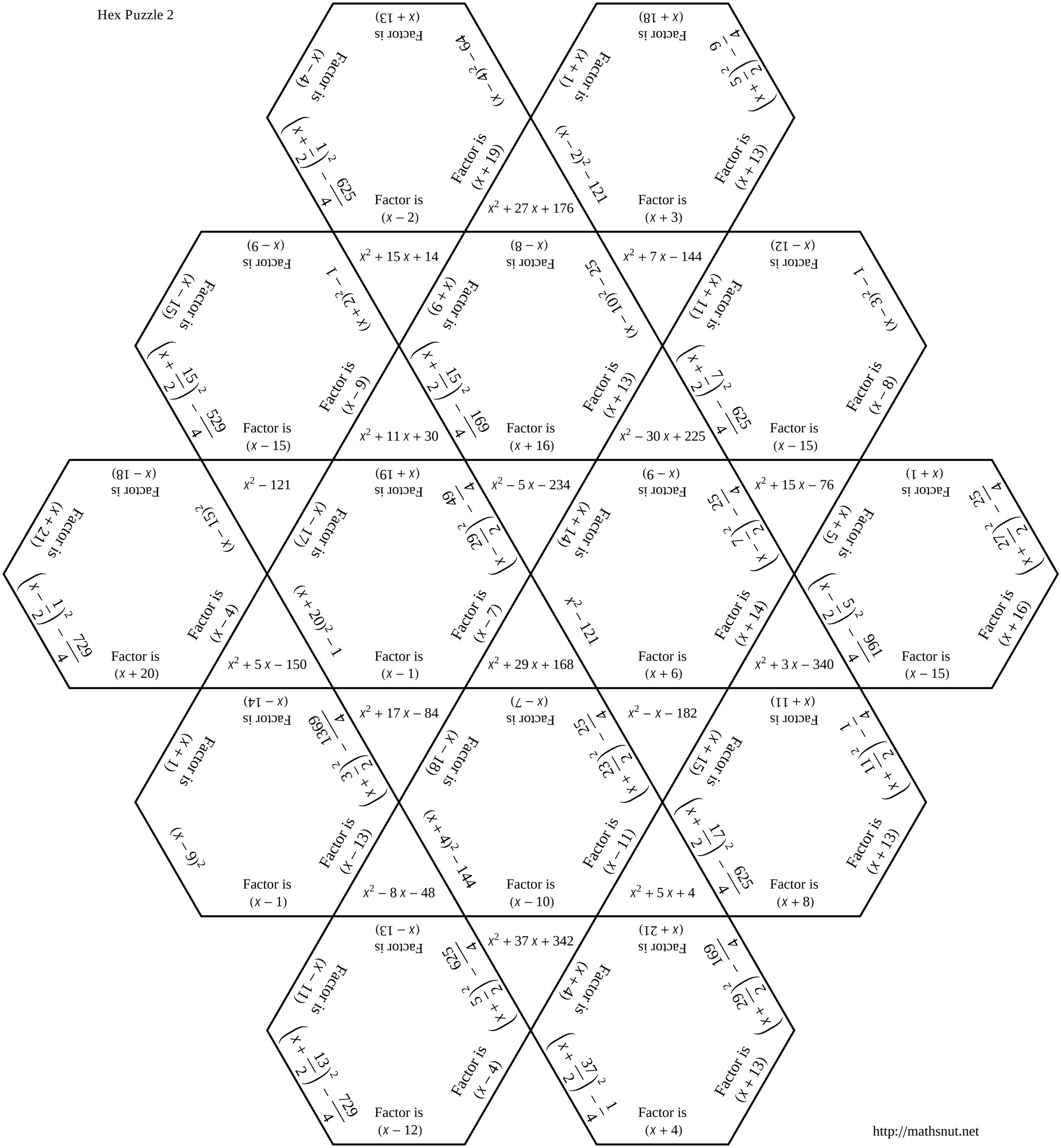

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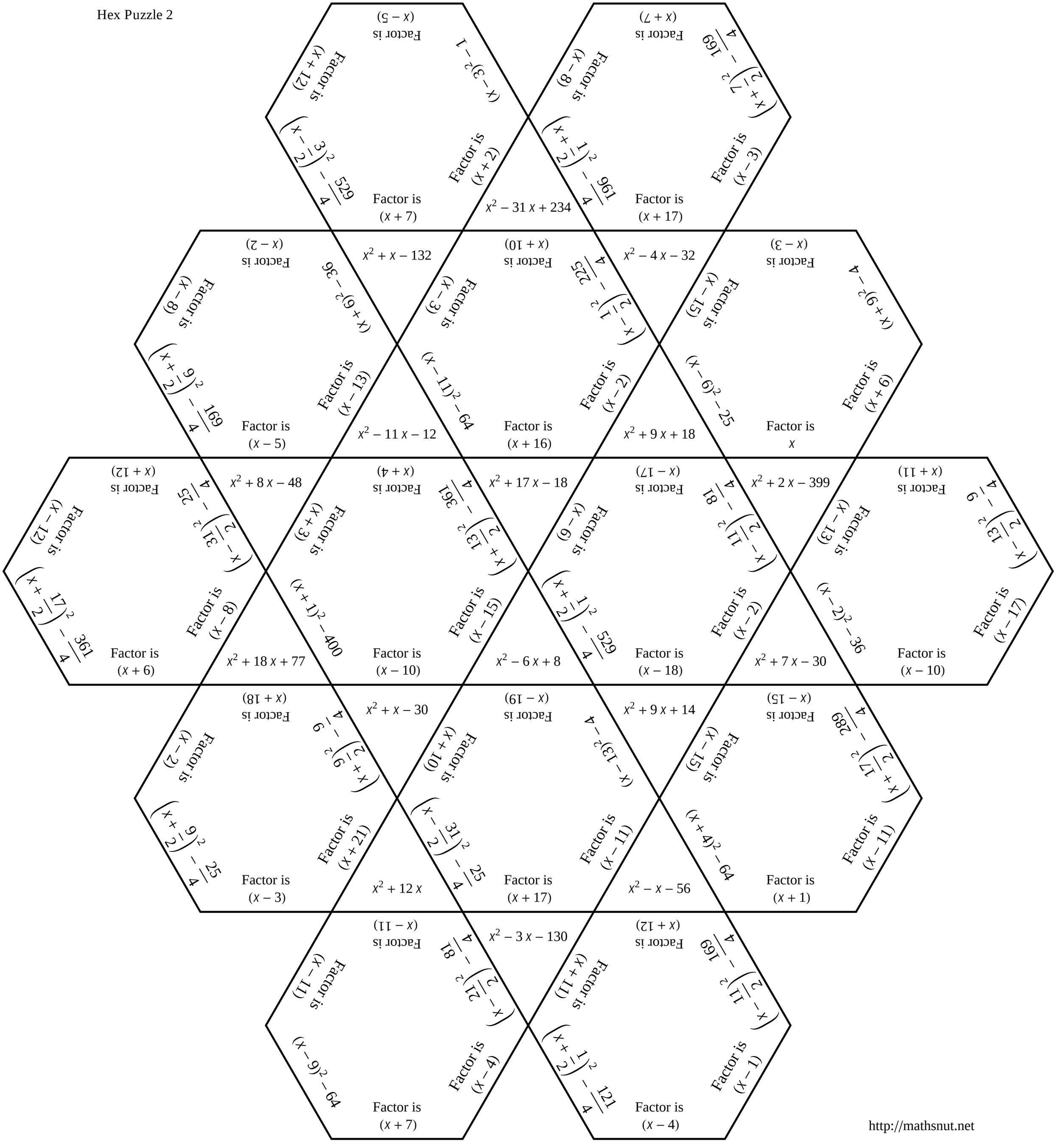

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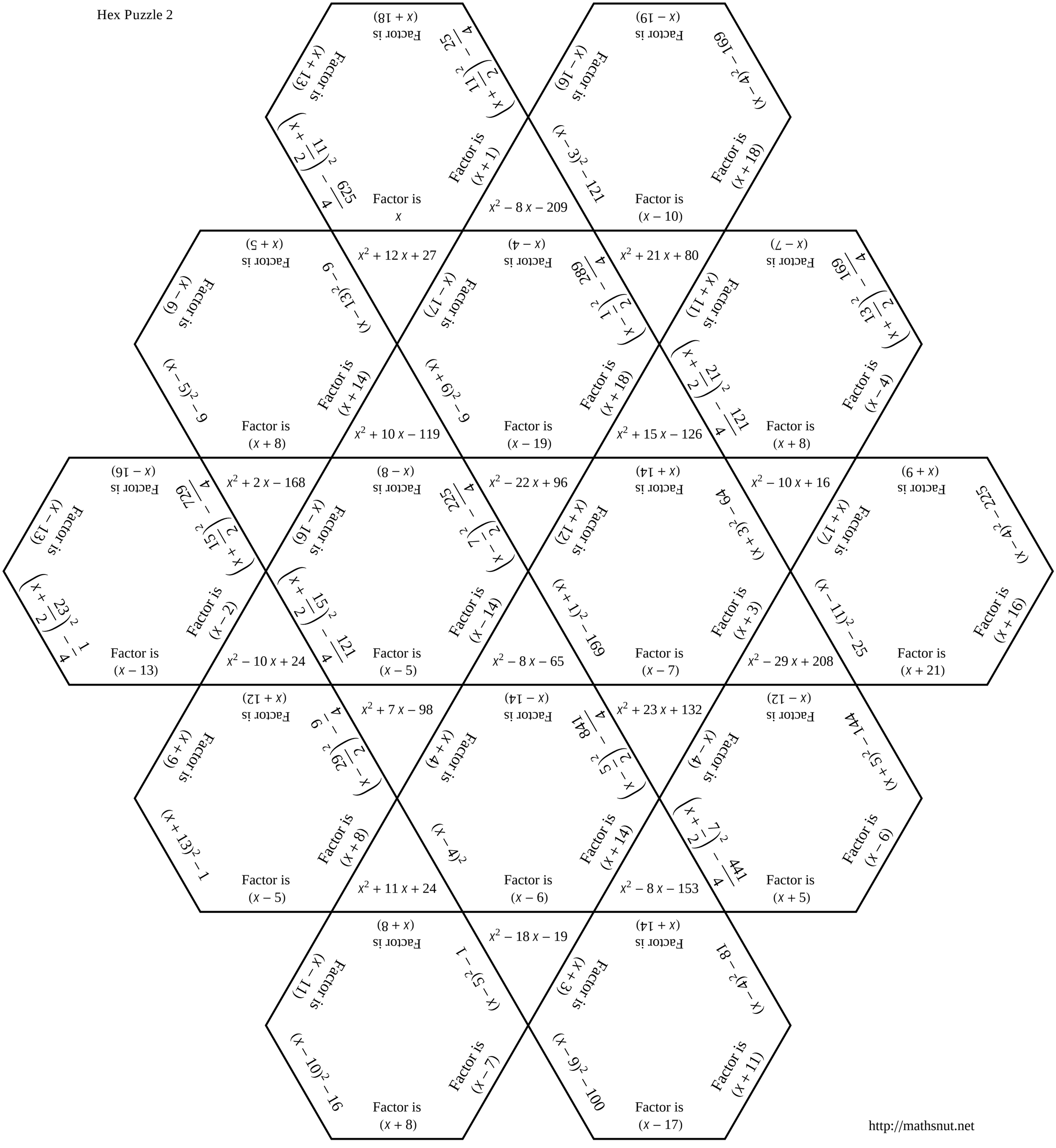

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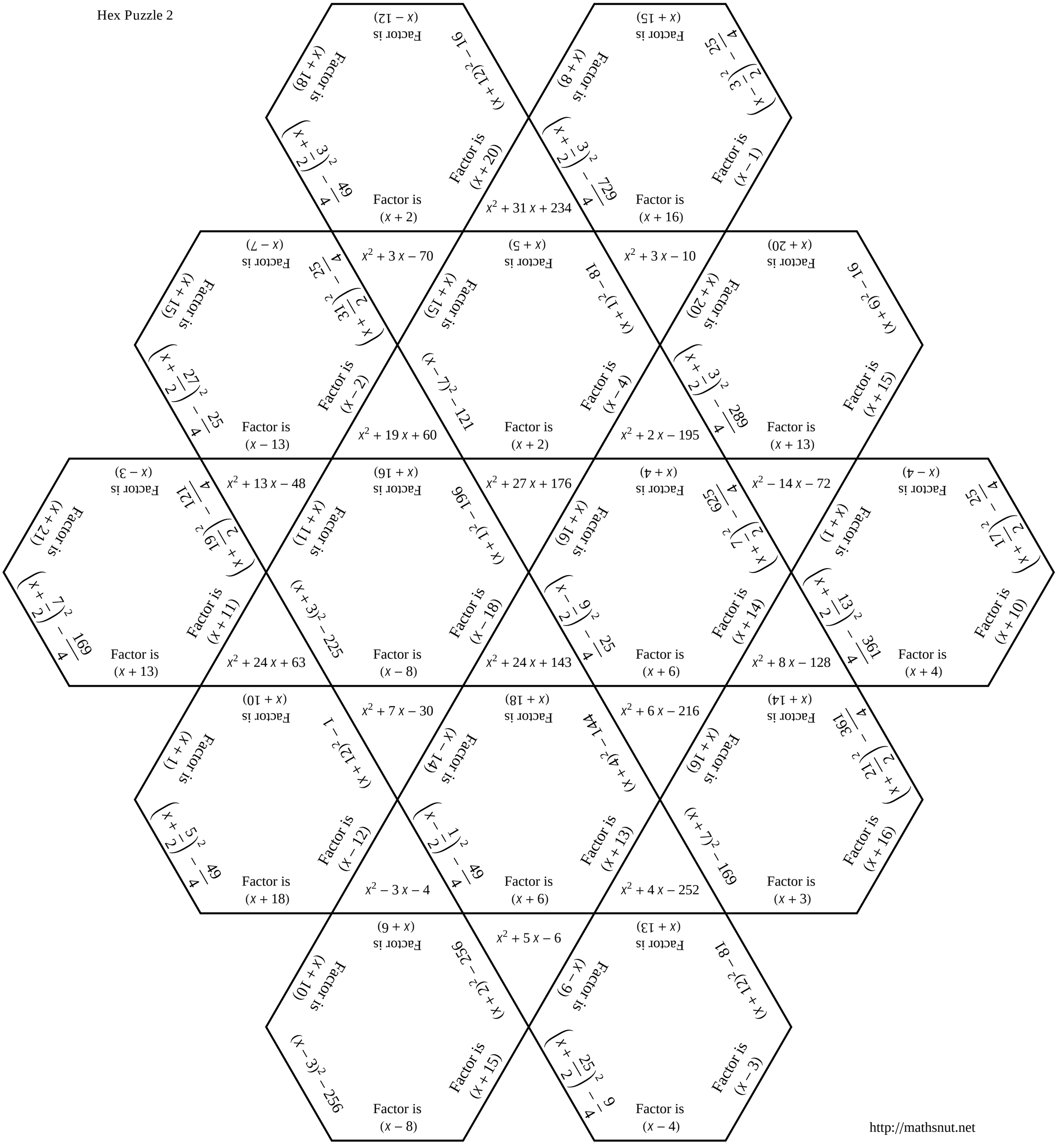

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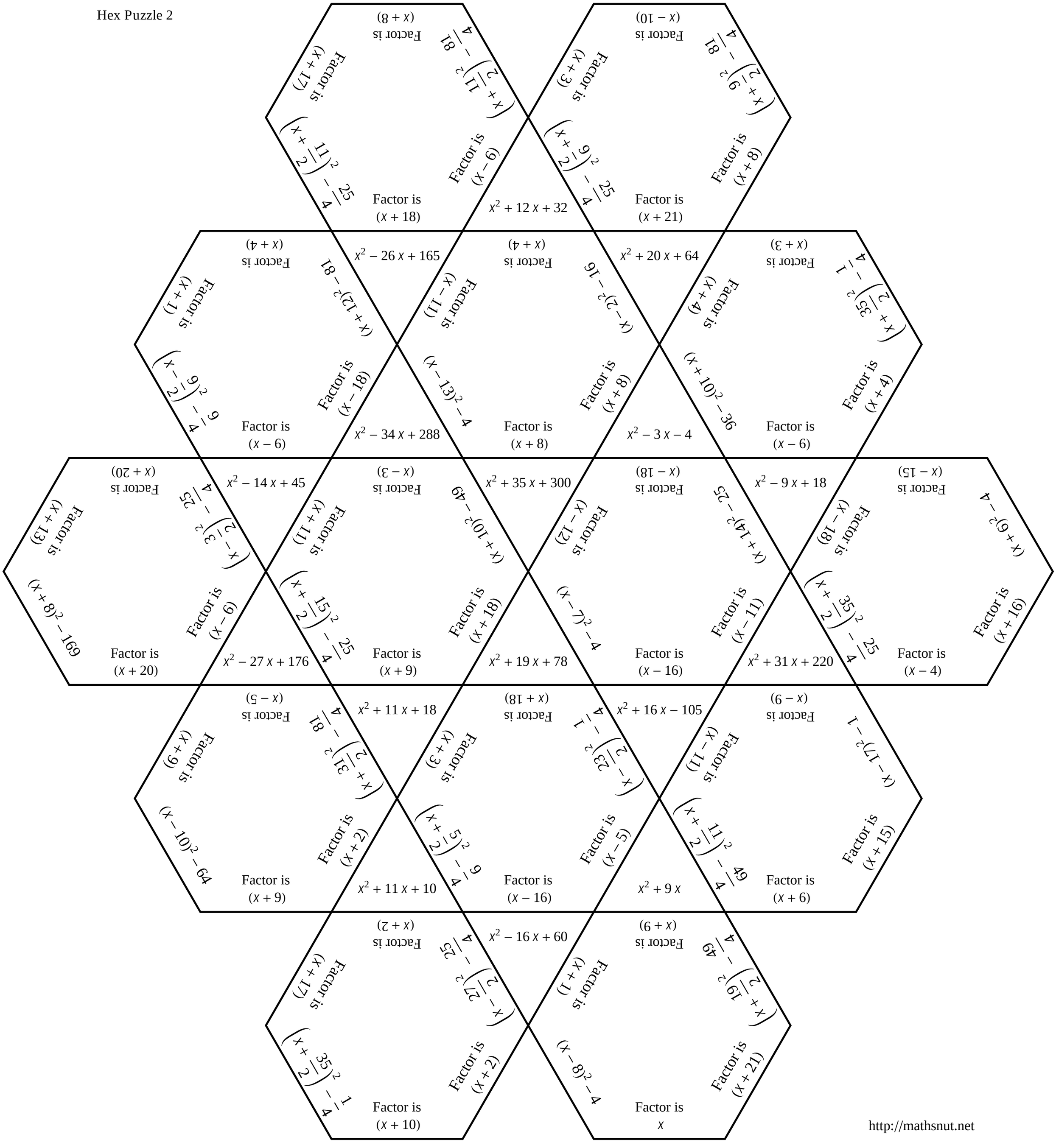

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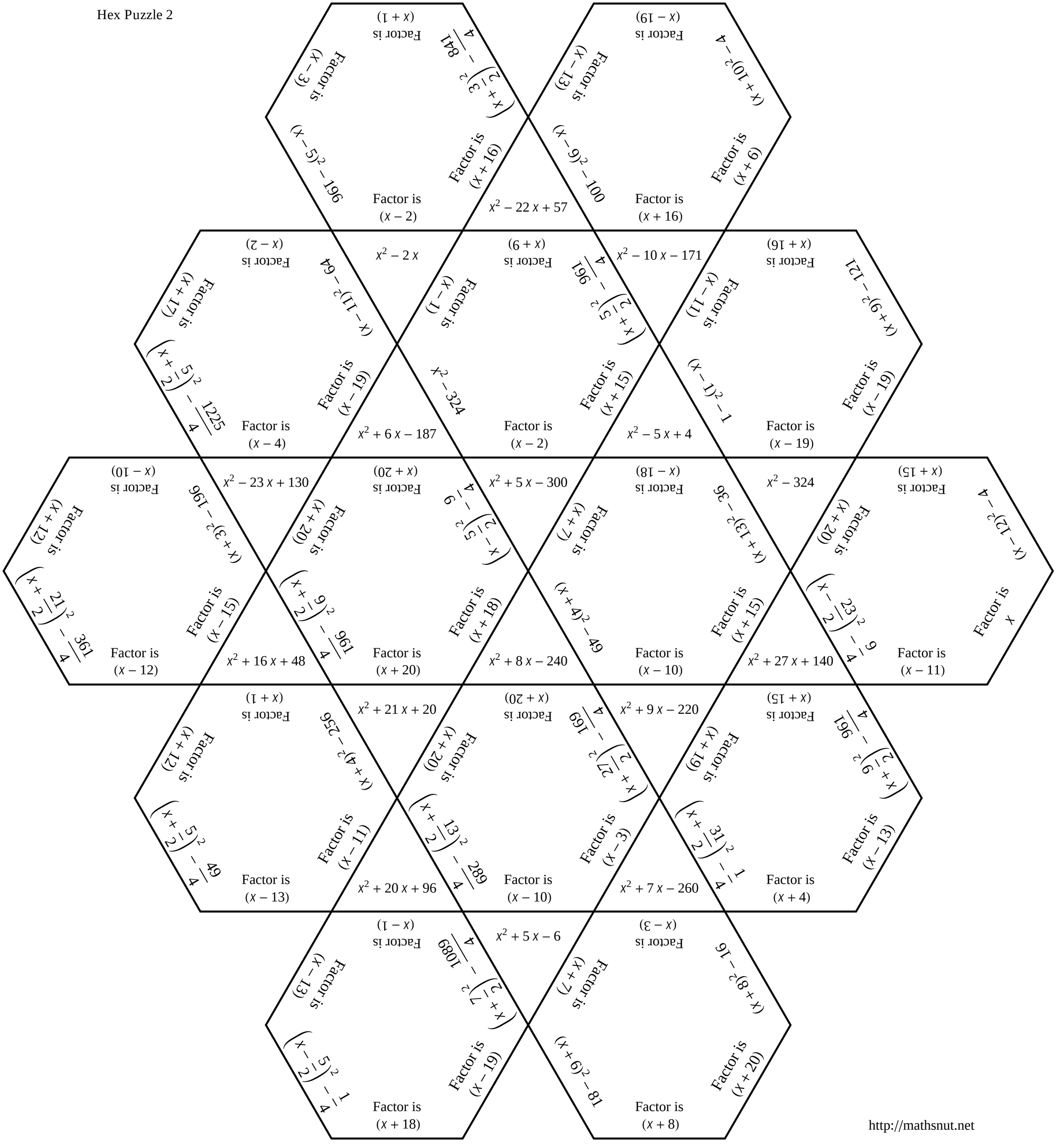

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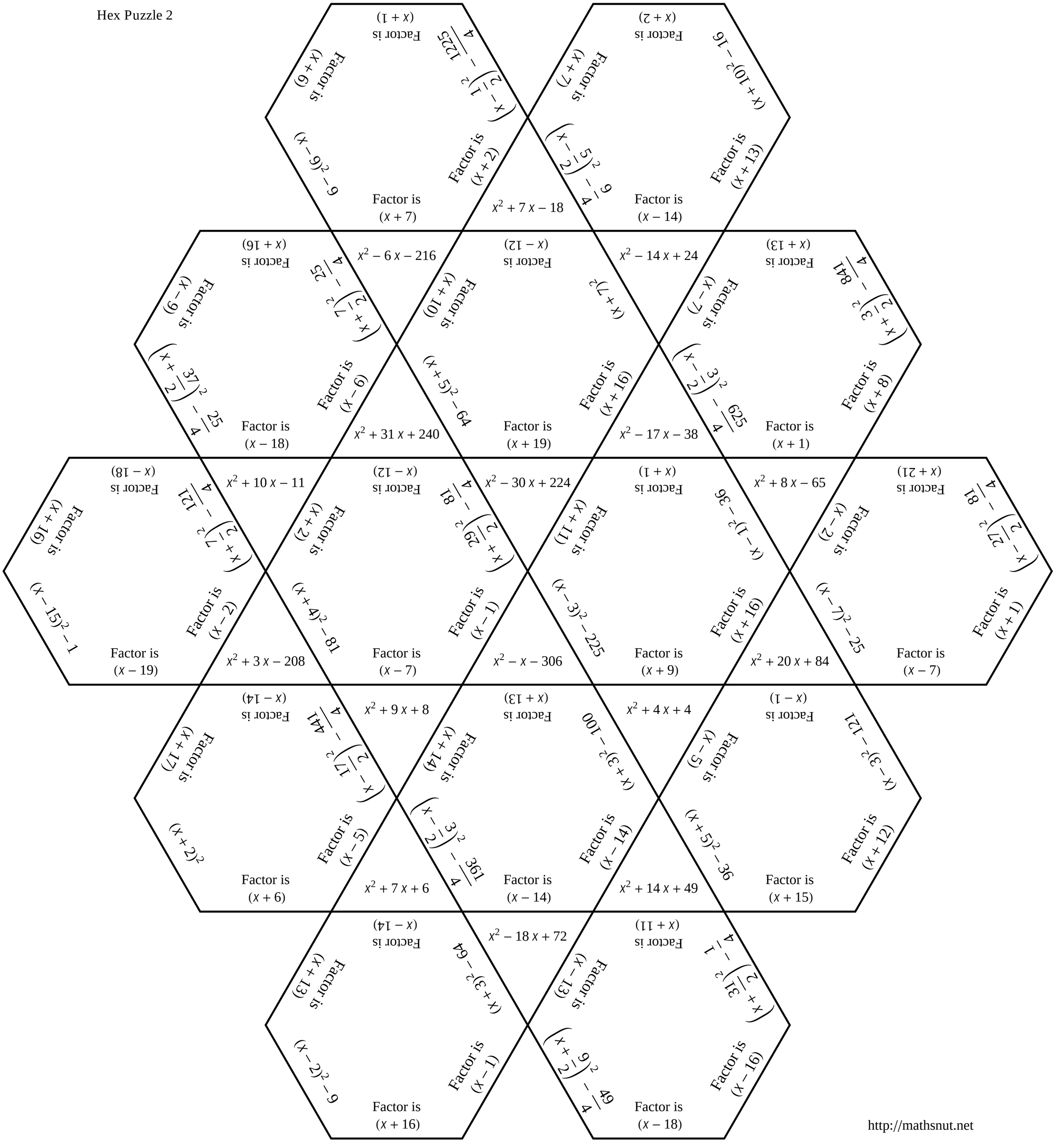
Hex Puzzle 2



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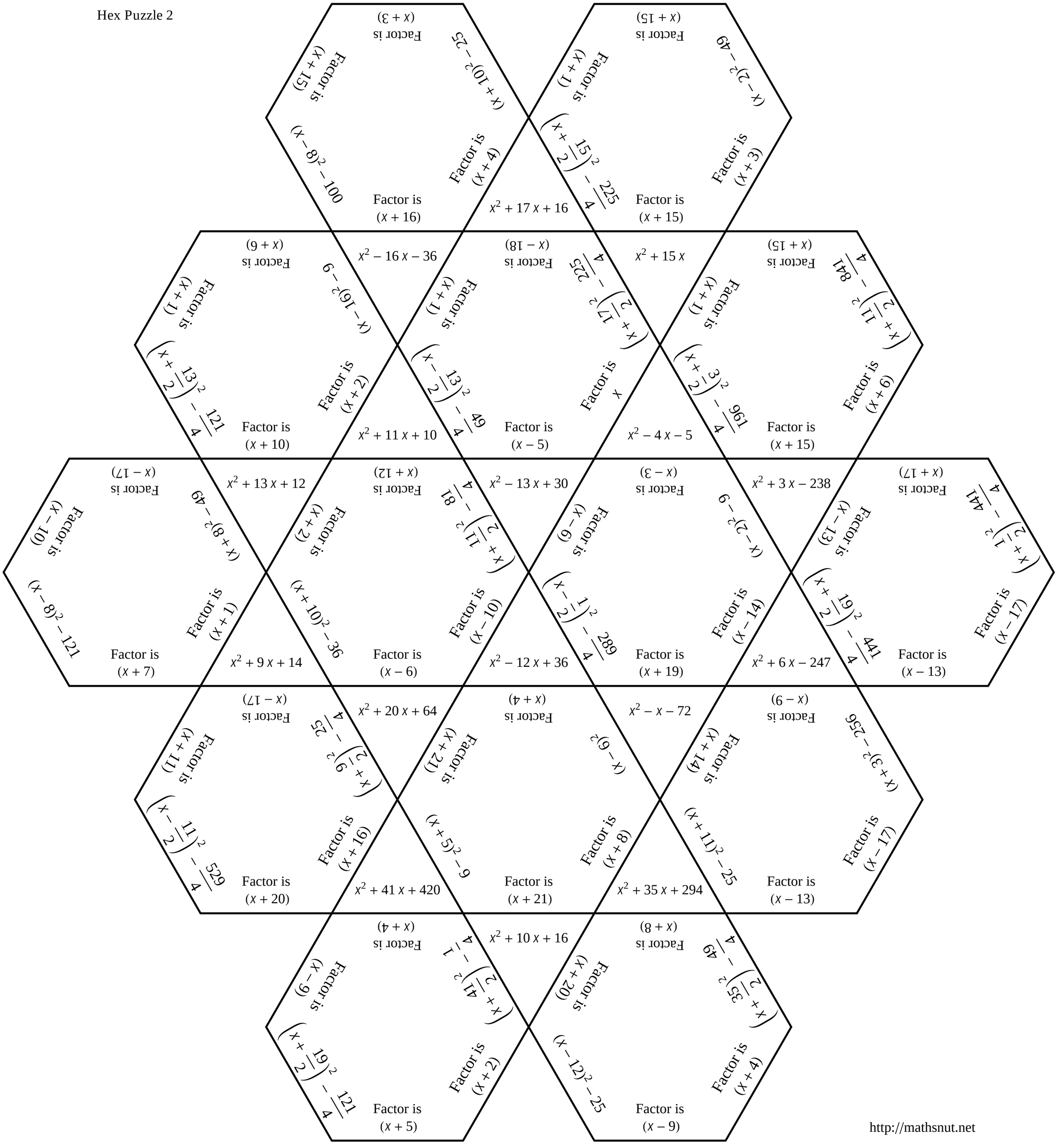

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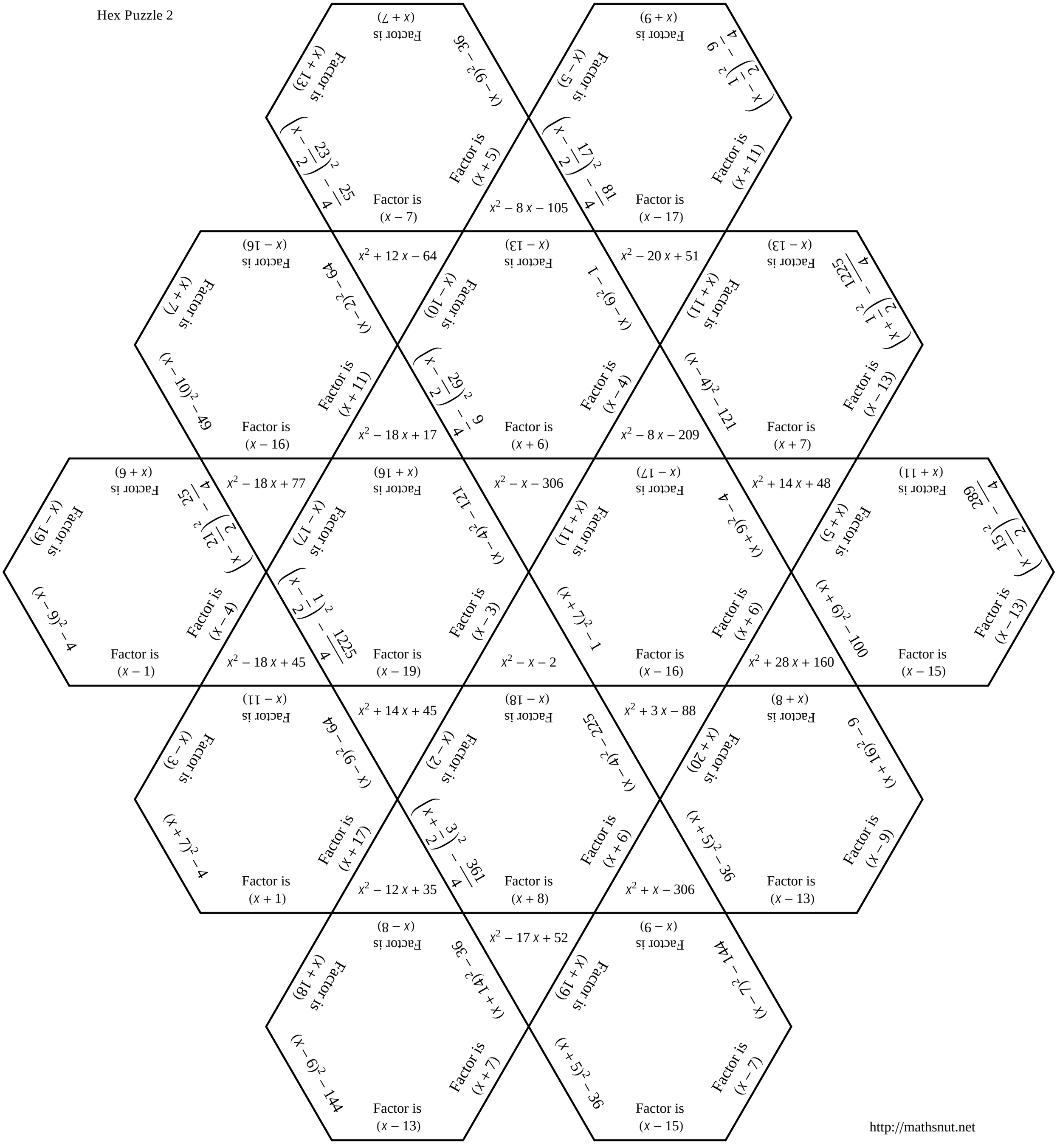

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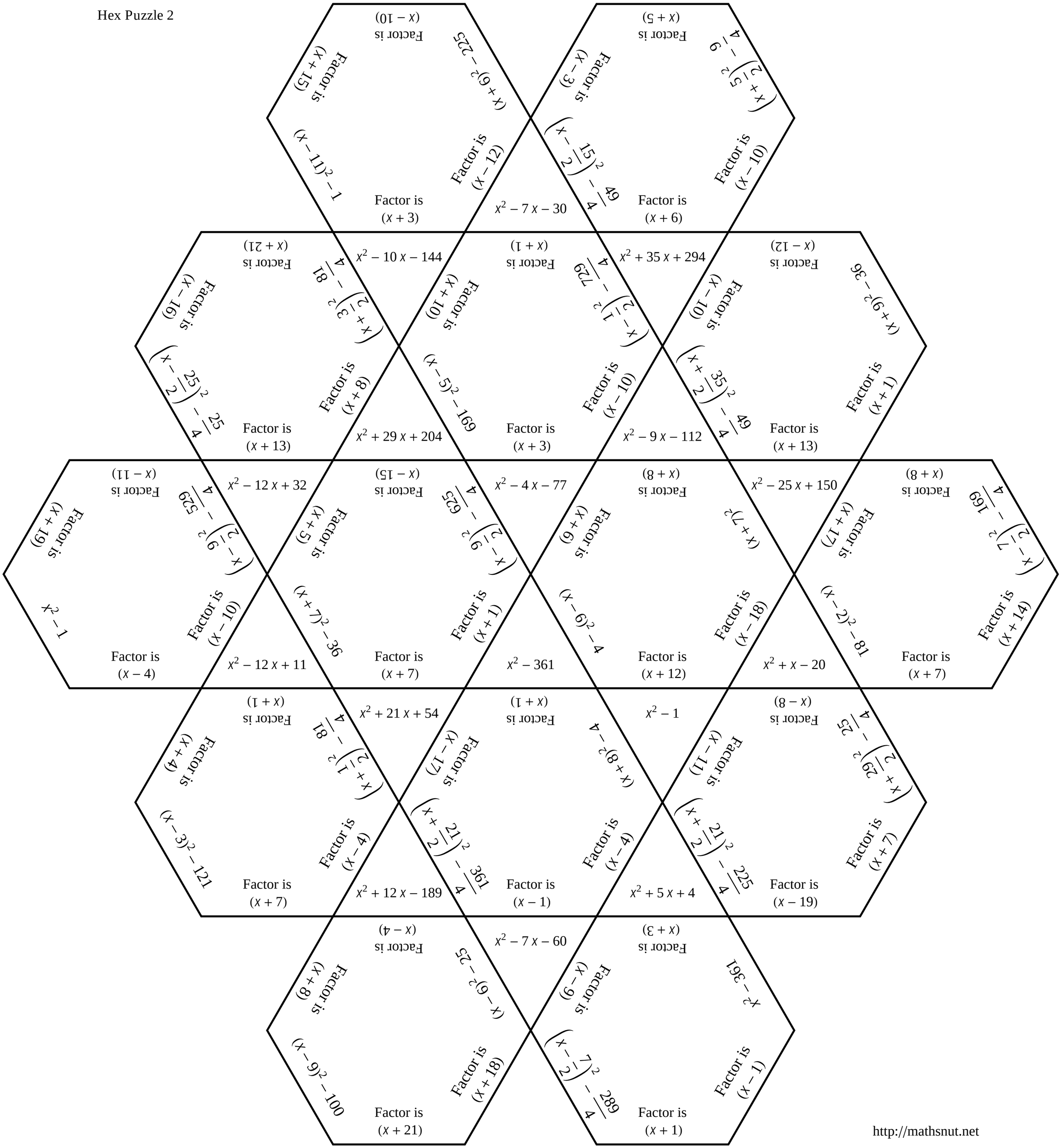

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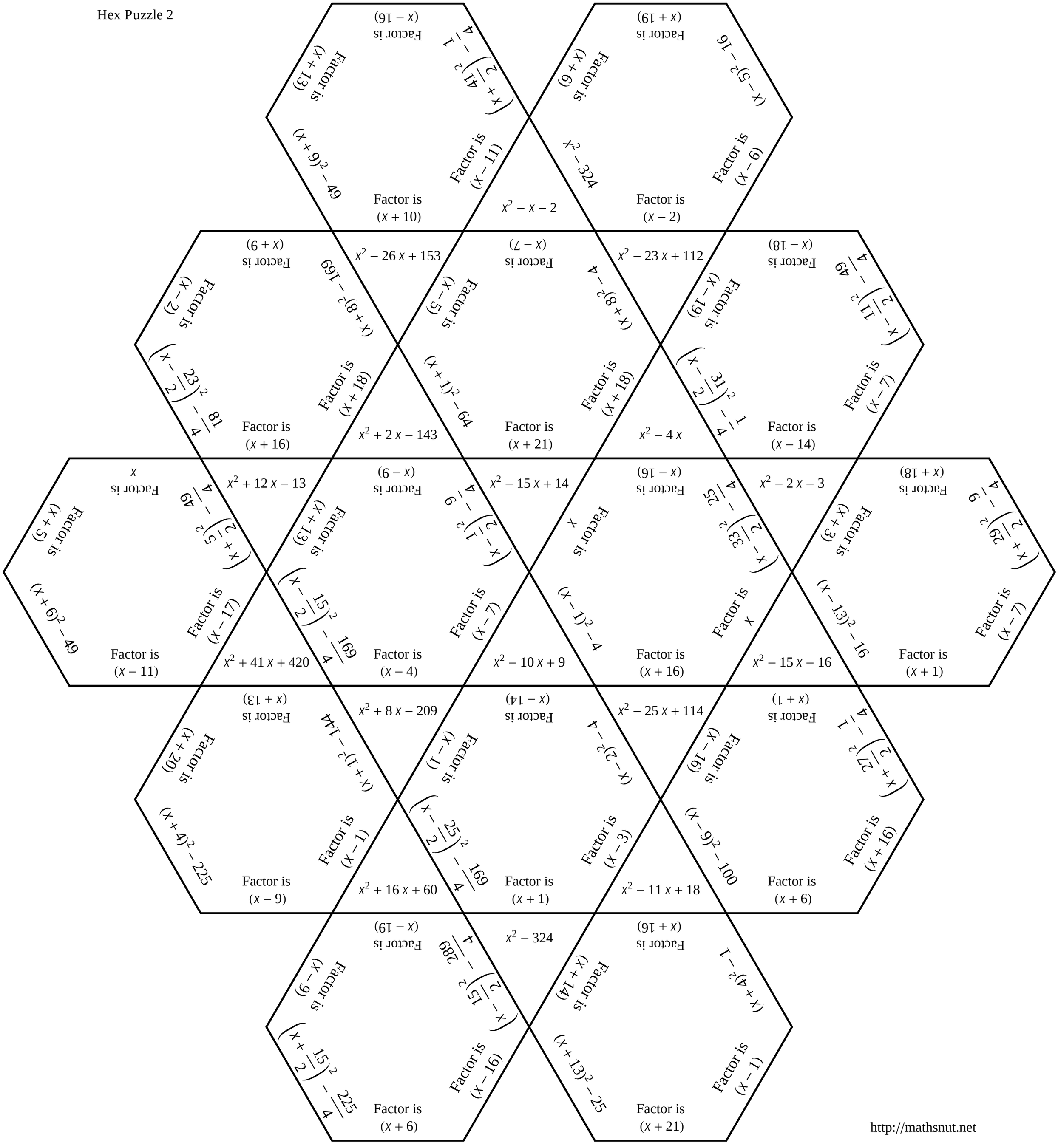
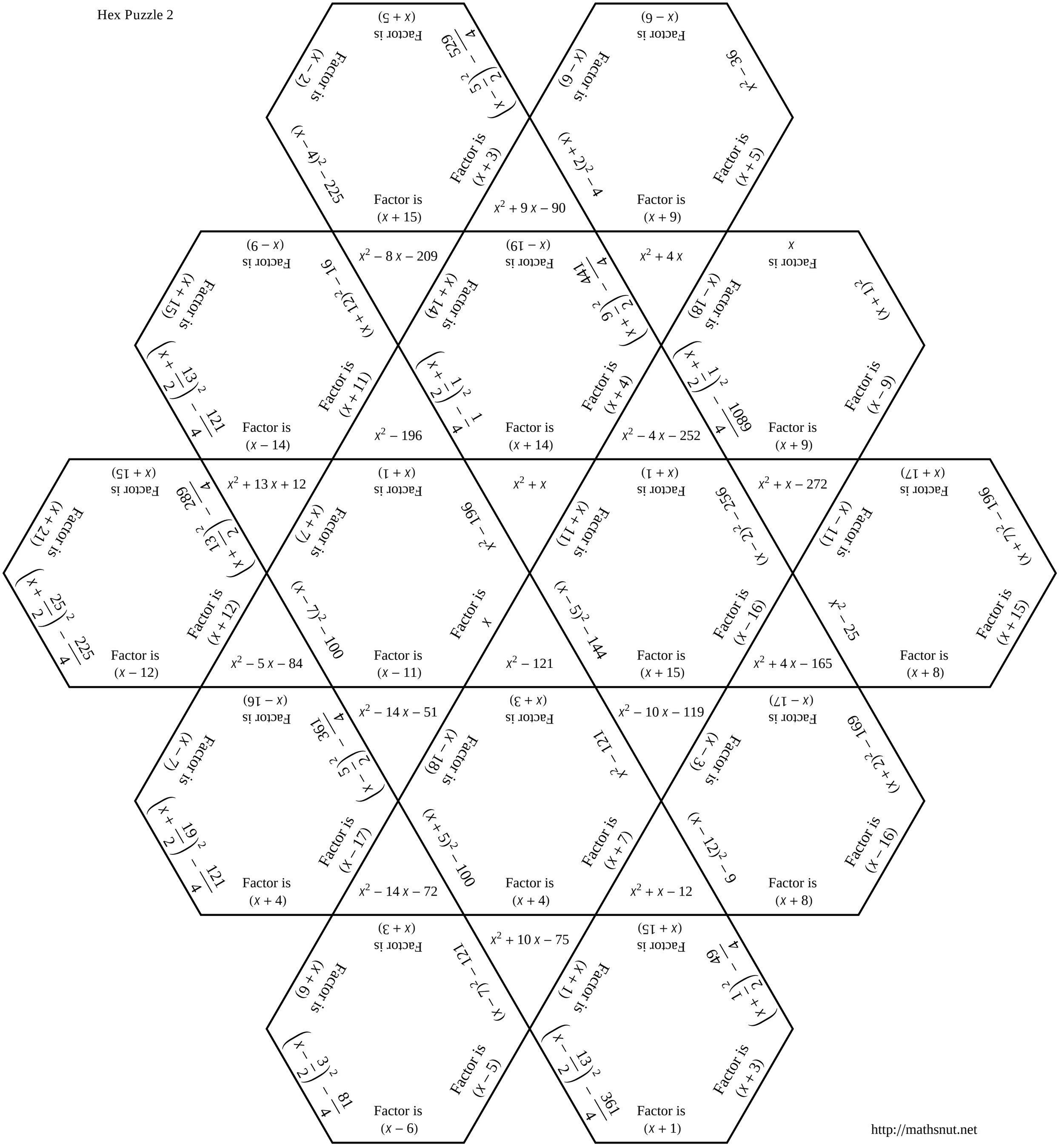
Hex Puzzle 2



Hex Puzzle 2



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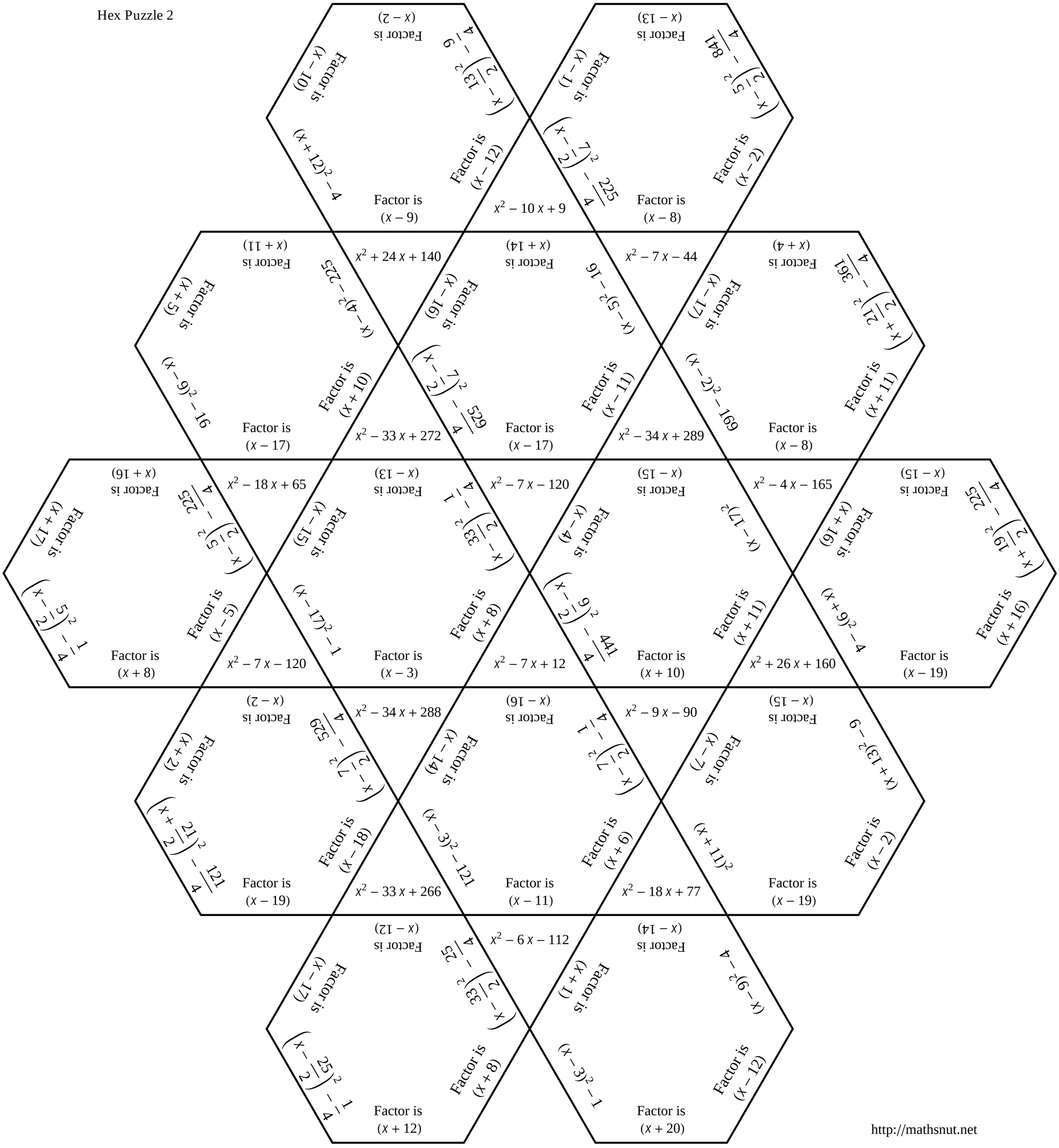

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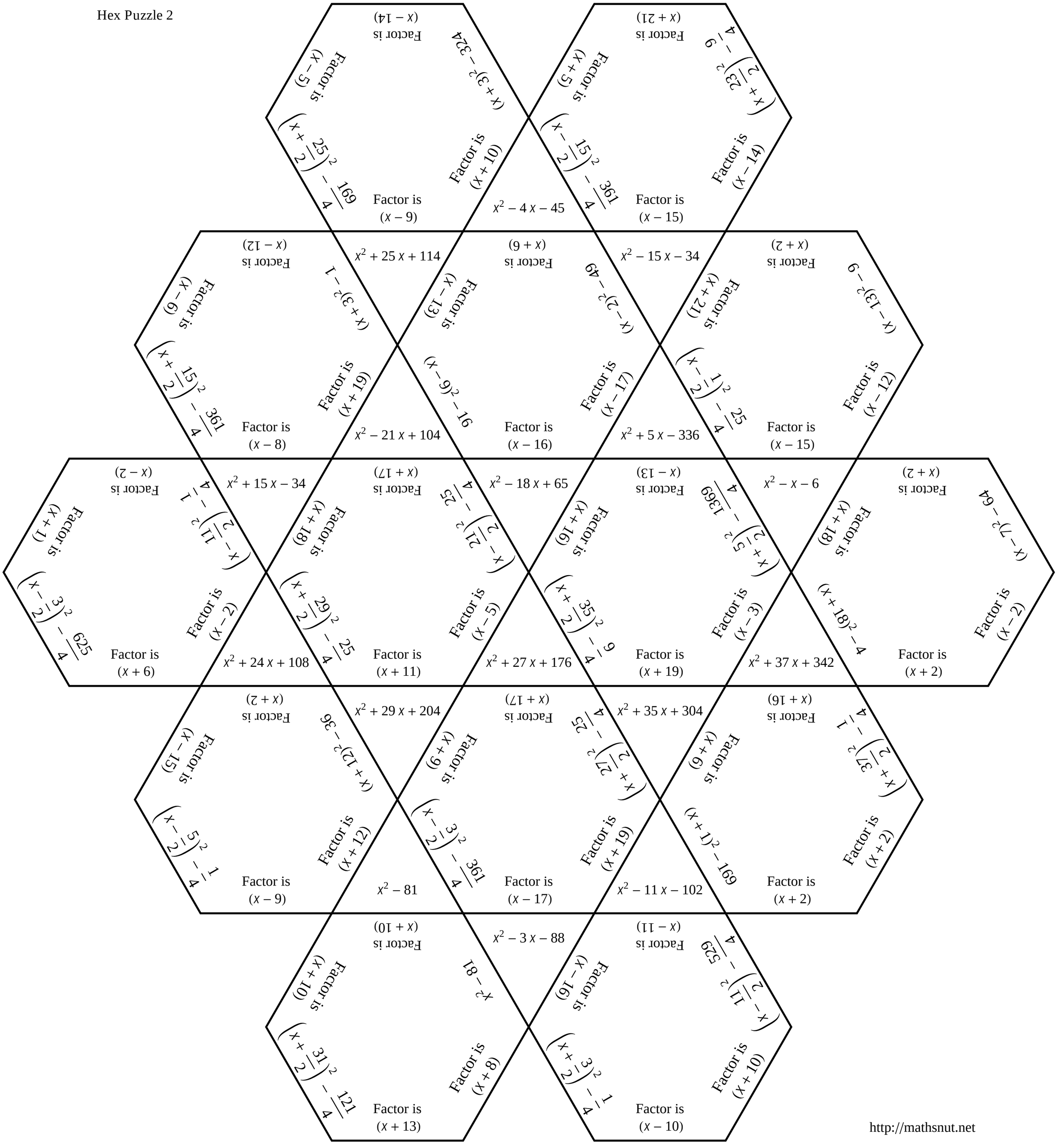

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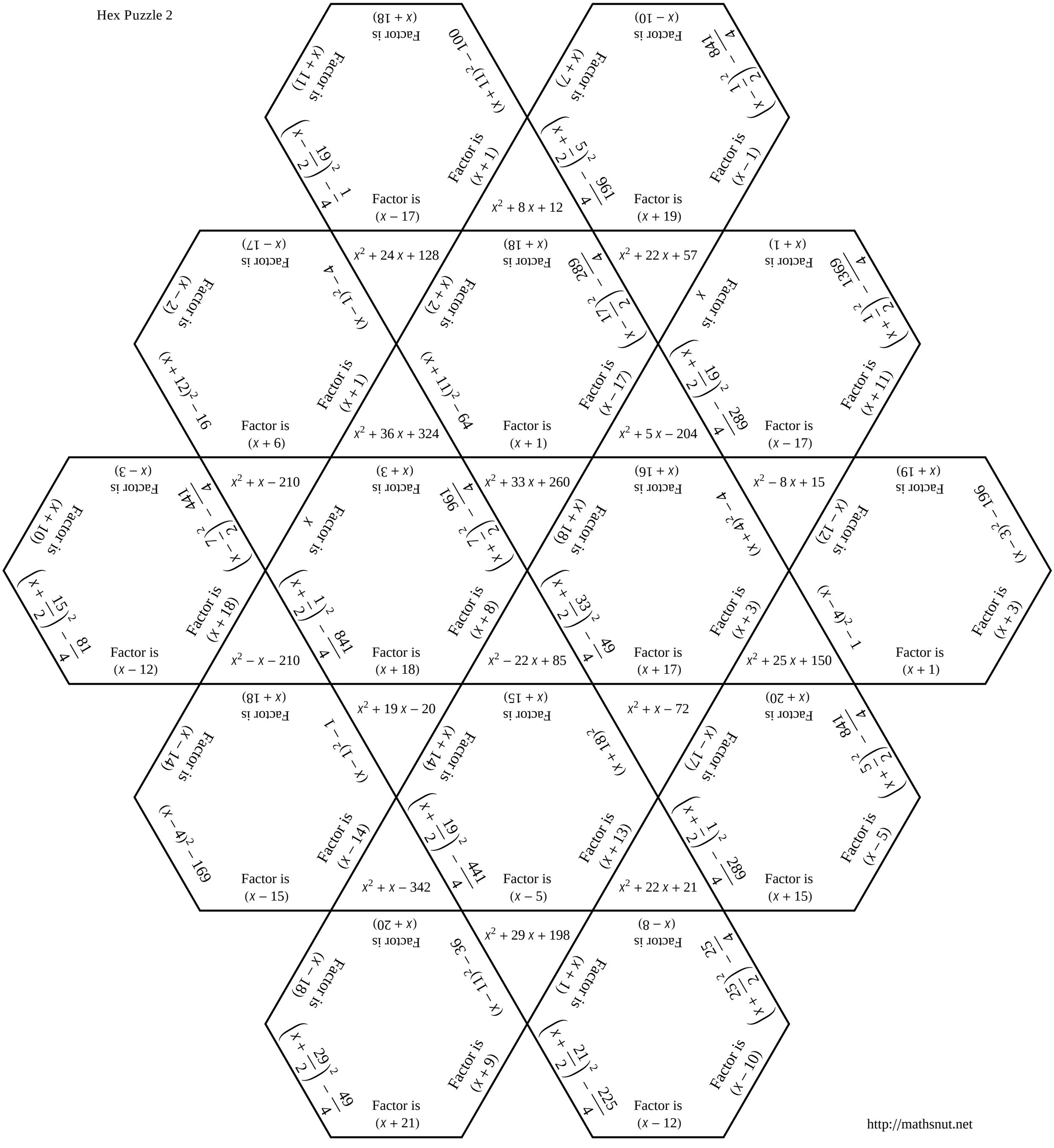
Hex Puzzle 2



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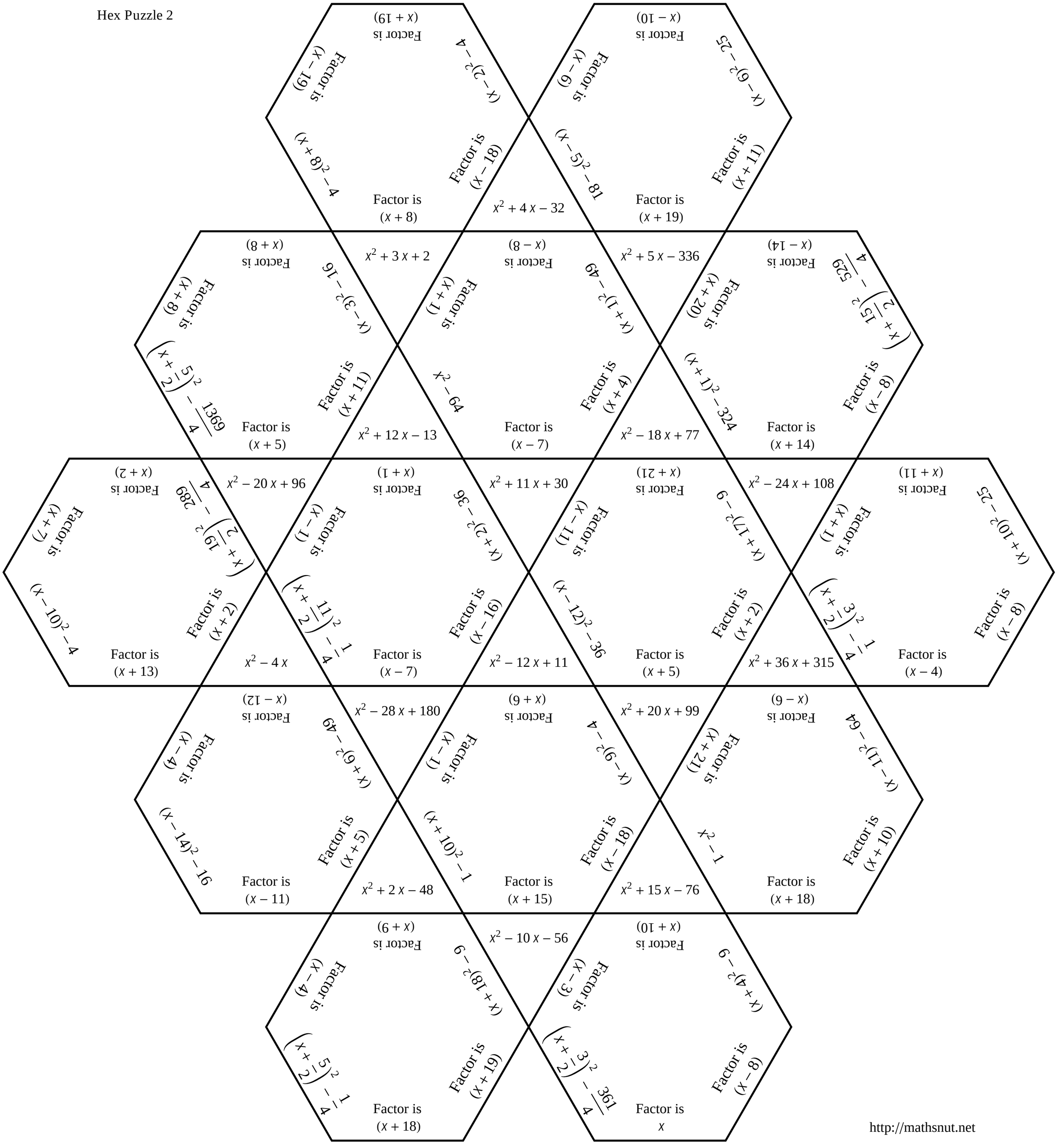
Hex Puzzle 2


Factor is (x + 19)
Factor is (x − 19)
(x − 2)² − 4
(x + 8)² − 4
Factor is (x − 18)
Factor is (x − 10)
Factor is (x − 6)
(x − 6)² − 25
(x − 5)² − 81
Factor is (x + 11)
Factor is (x + 8)
x² + 4x − 32
Factor is (x + 19)
Factor is (x + 8)
x² + 3x + 2
Factor is (x − 8)
Factor is (x + 8)
(x − 3)² − 16
(x + 1)² − 49
Factor is (x + 1)
Factor is (x + 20)
x² + 5x − 336
Factor is (x − 14)
Factor is (x + 8)
Factor is (x + 11)
Factor is (x + 4)
x² − 64
(x + 1)² − 324
Factor is (x − 8)
Factor is (x + 5)
x² + 12x − 13
Factor is (x − 7)
x² − 18x + 77
Factor is (x + 14)
Factor is (x + 2)
Factor is (x + 1)
(x + 2)² − 36
Factor is (x − 11)
(x + 17)² − 9
Factor is (x + 1)
(x + 10)² − 25
Factor is (x + 2)
Factor is (x − 1)
x² − 20x + 96
x² + 11x + 30
x² − 24x + 108
Factor is (x − 16)
Factor is (x + 2)
Factor is (x − 7)
x² − 4x
x² − 12x + 11
Factor is (x + 5)
Factor is (x − 4)
Factor is (x + 13)
Factor is (x − 12)
Factor is (x − 4)
(x + 6)² − 49
Factor is (x − 1)
(x − 9)² − 4
Factor is (x + 21)
(x − 11)² − 64
Factor is (x + 5)
Factor is (x − 14)
(x − 14)² − 16
Factor is (x + 10)
x² − 28x + 180
Factor is (x + 9)
x² + 20x + 99
Factor is (x − 6)
Factor is (x + 18)
Factor is (x − 18)
x² − 1
Factor is (x + 10)
Factor is (x − 11)
x² + 2x − 48
Factor is (x + 15)
x² + 15x − 76
Factor is (x + 18)
Factor is (x + 9)
Factor is (x − 4)
(x + 18)² − 9
Factor is (x − 3)
(x + 4)² − 9
Factor is (x + 19)
Factor is (x − 8)
x² − 10x − 56
Factor is (x + 10)
Factor is (x + 18)
Factor is x
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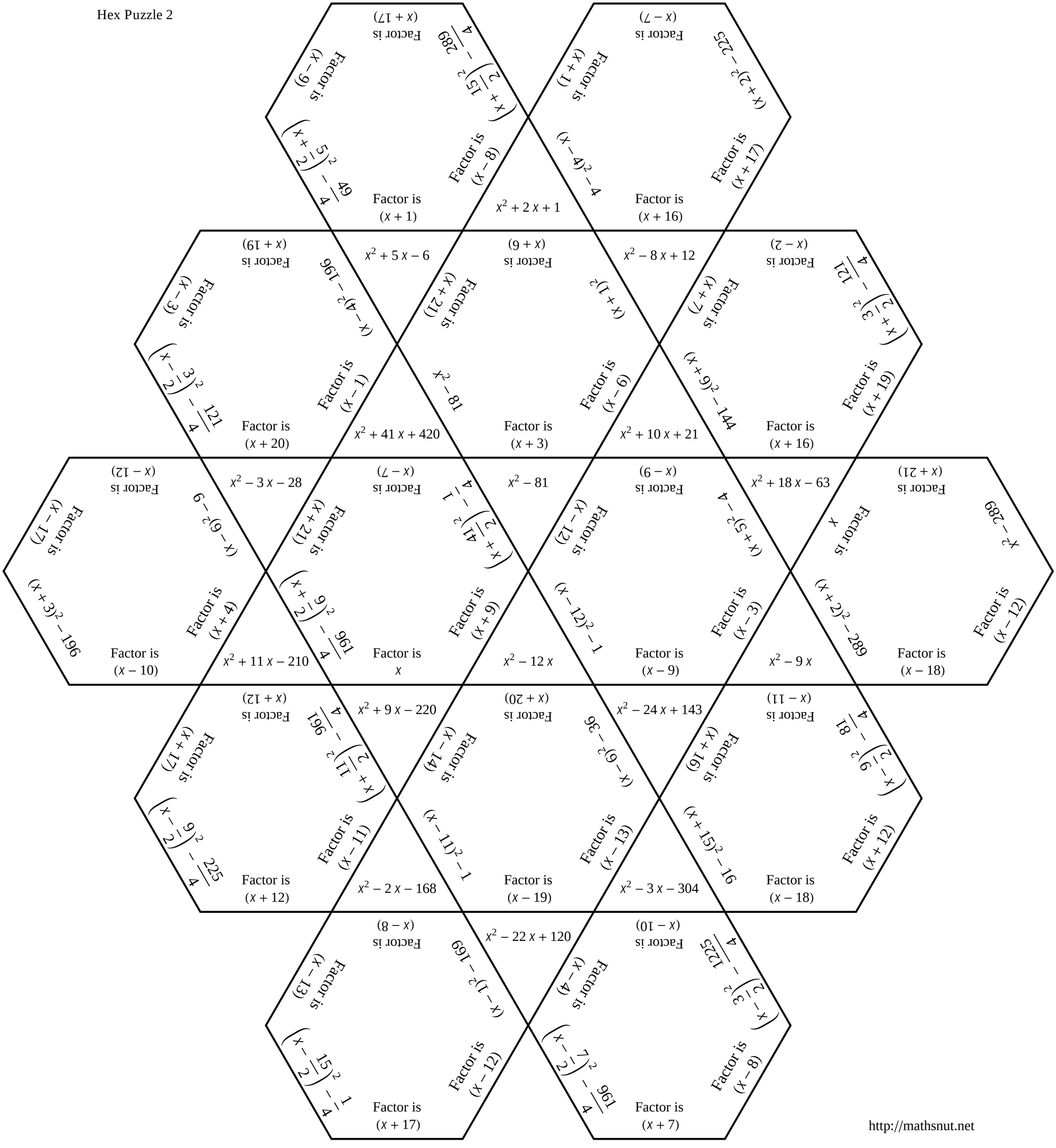
Hex Puzzle 2



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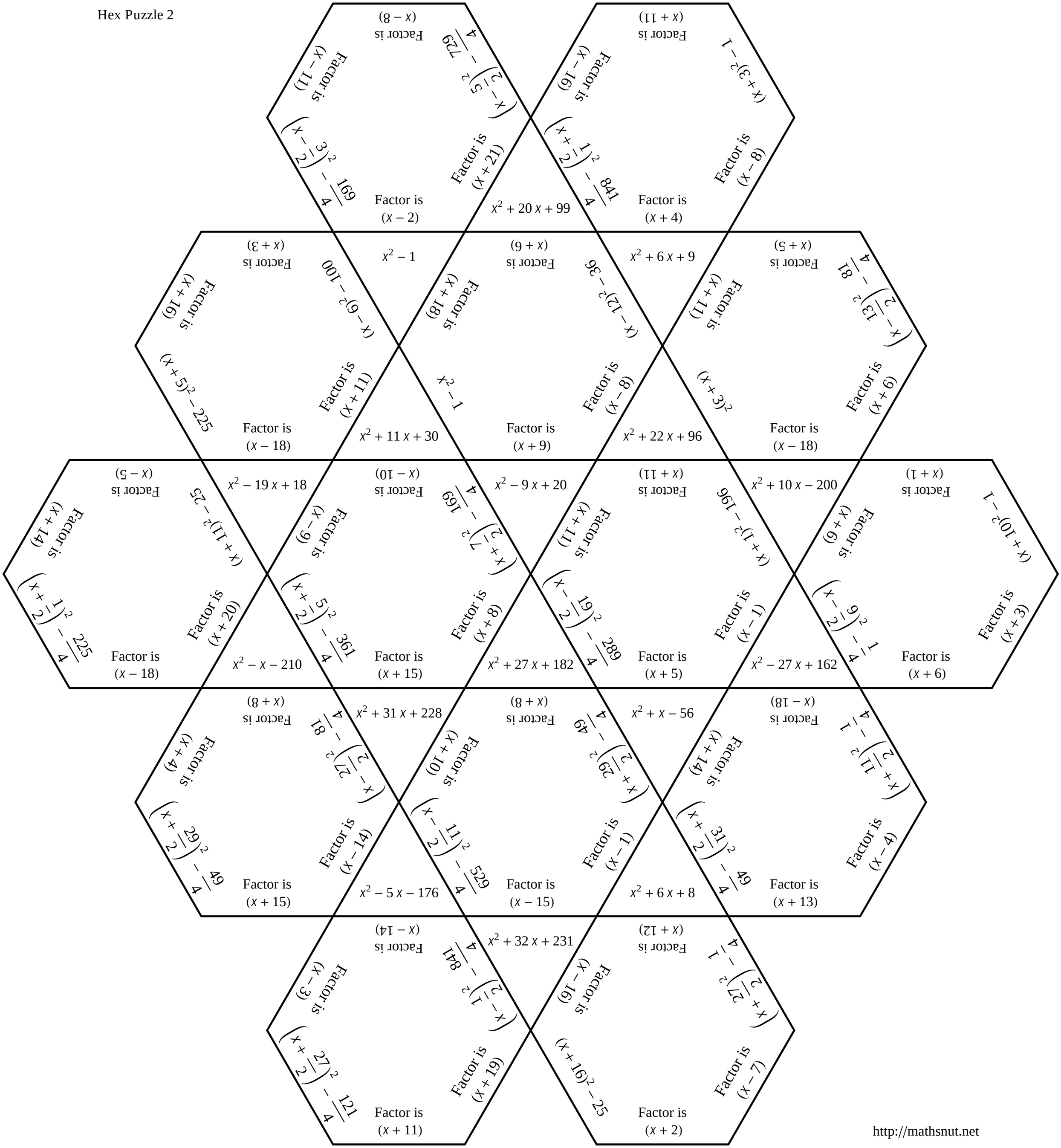

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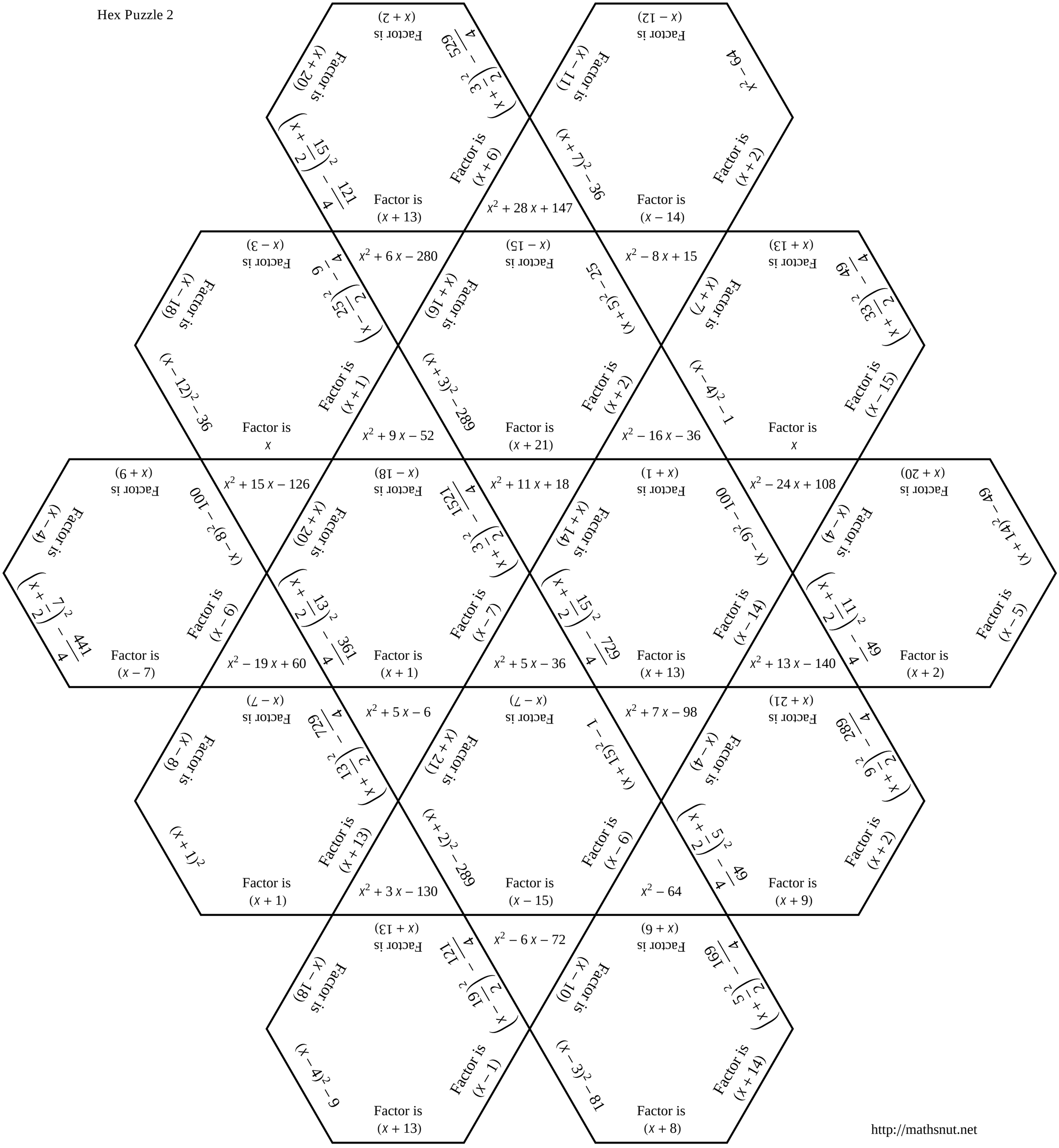

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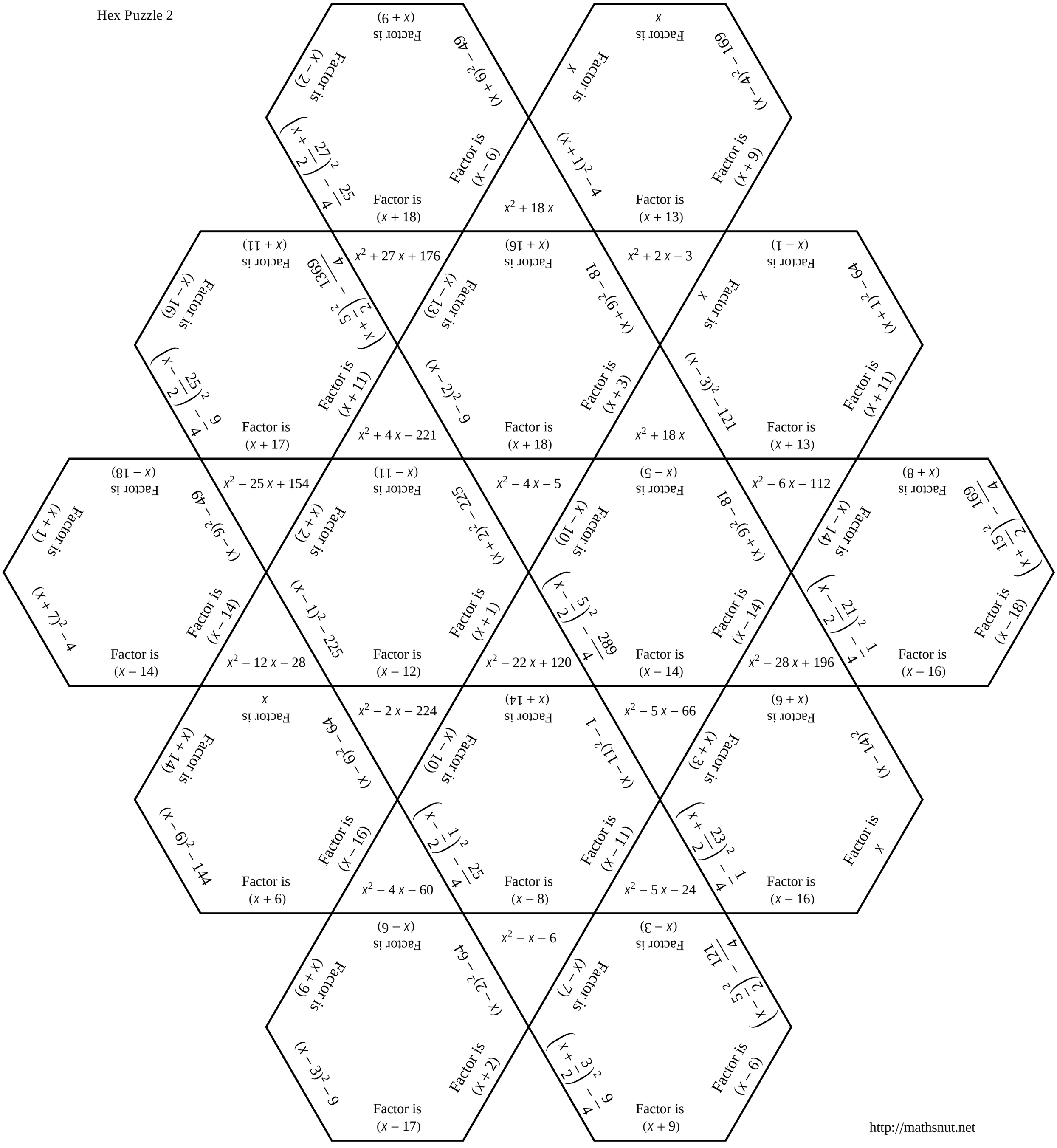
Hex Puzzle 2



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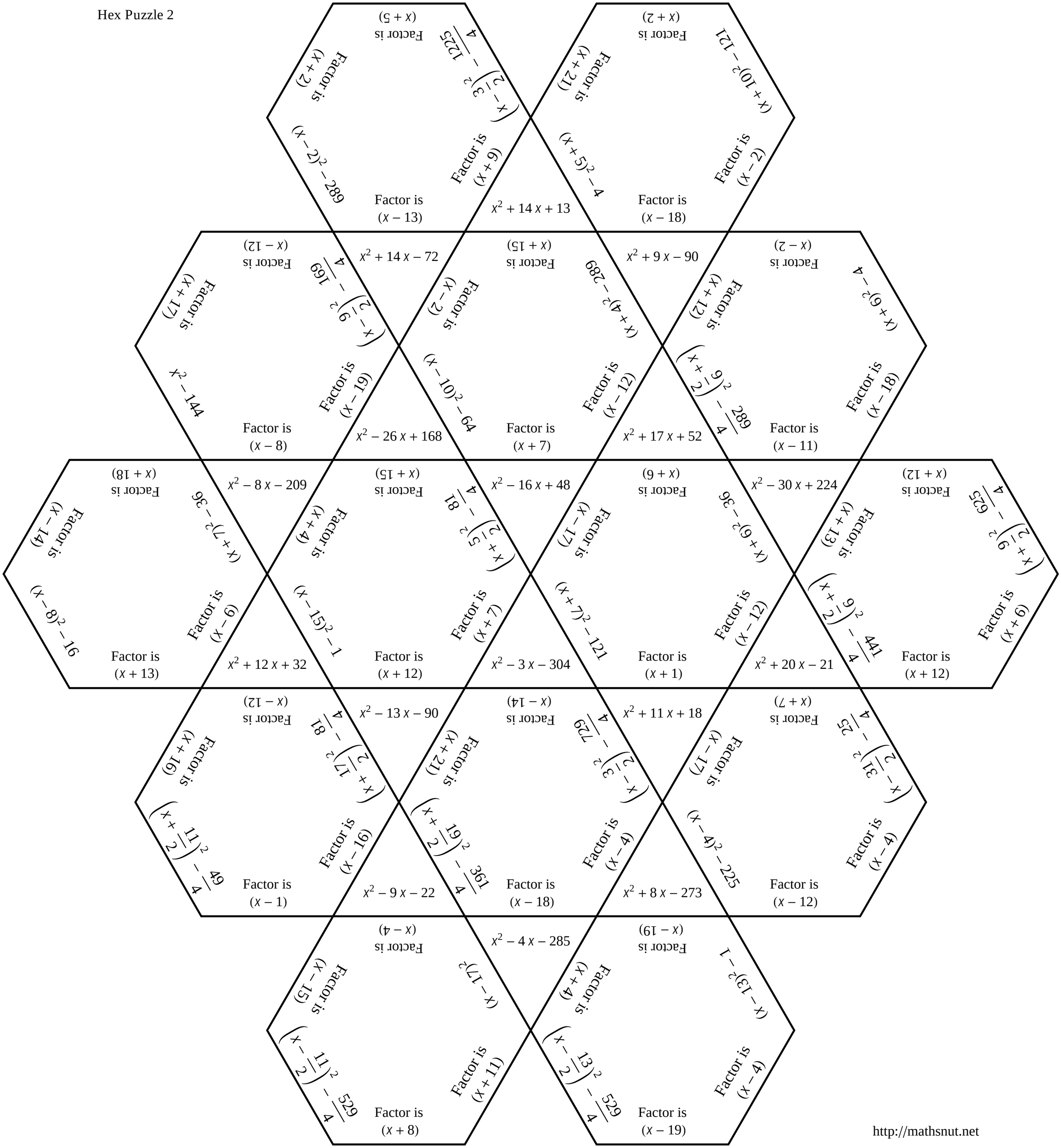

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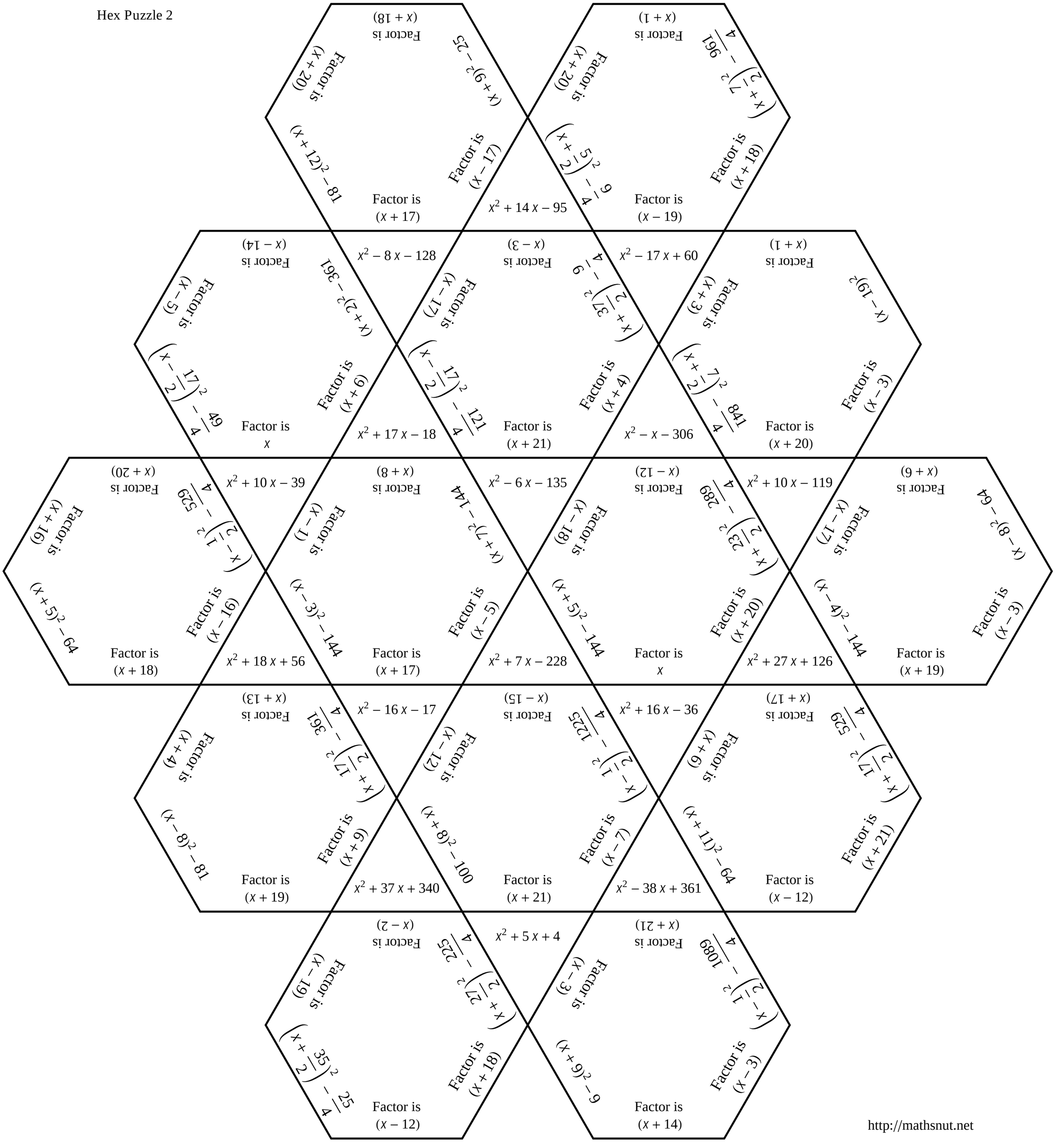

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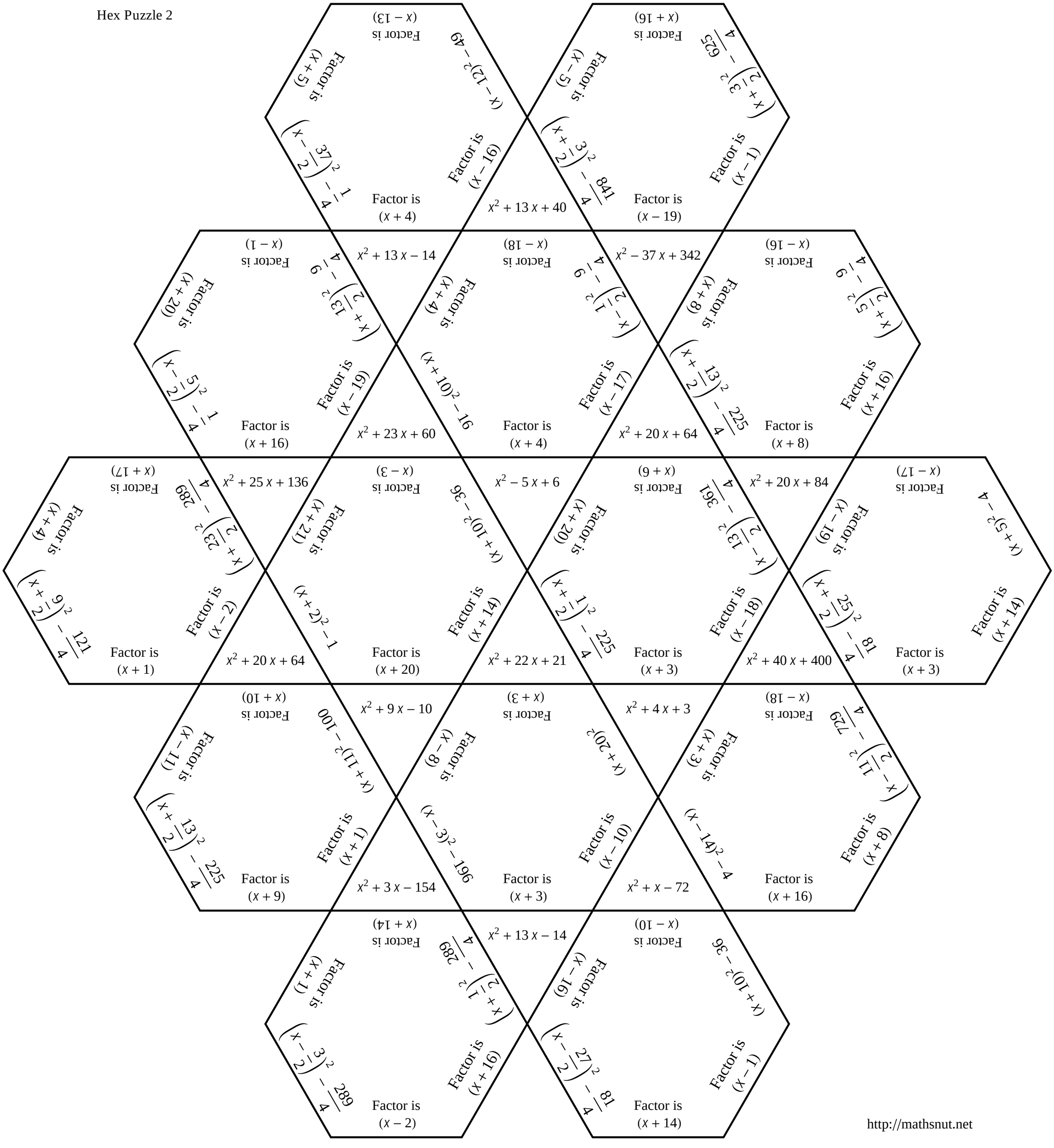

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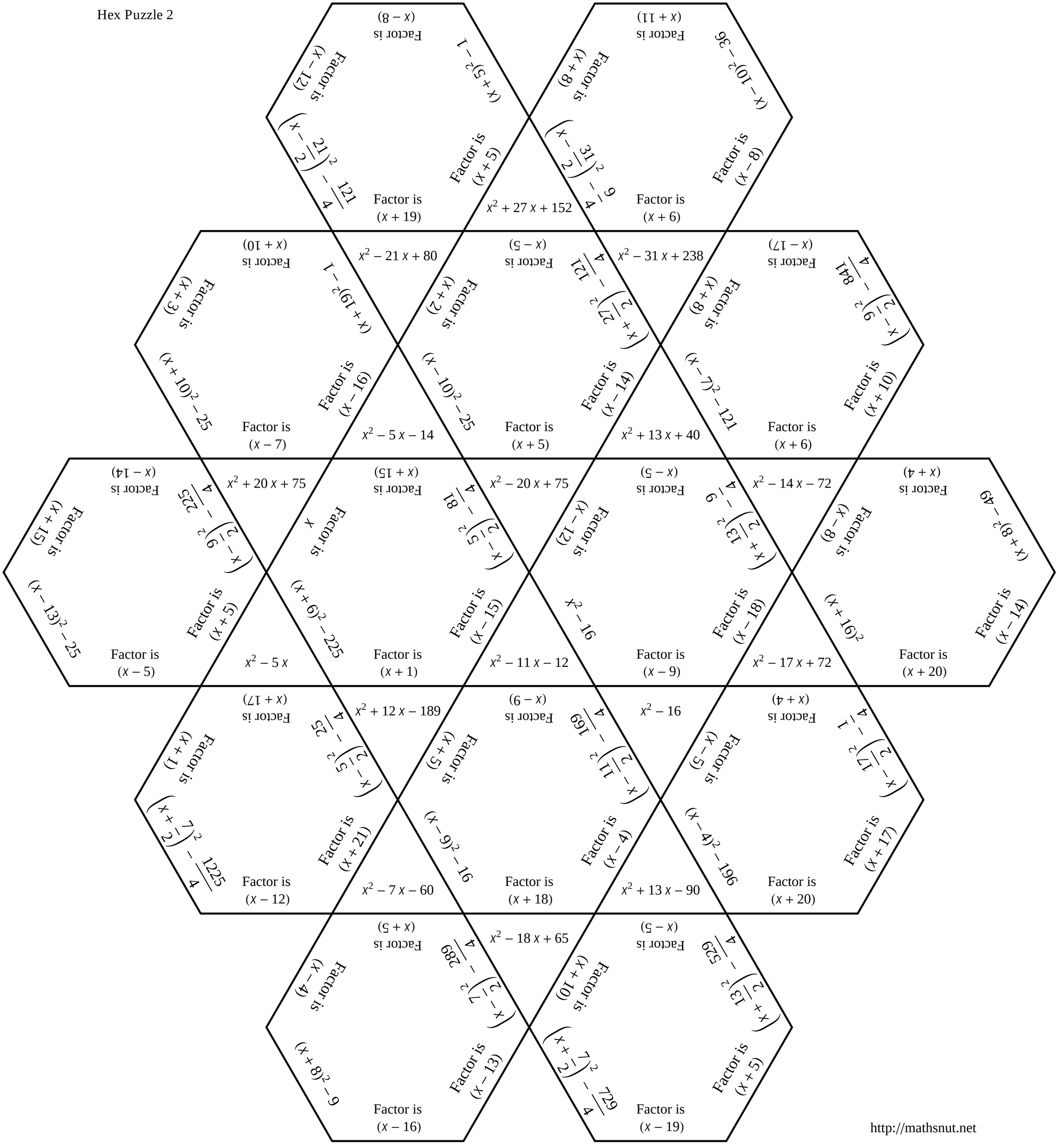
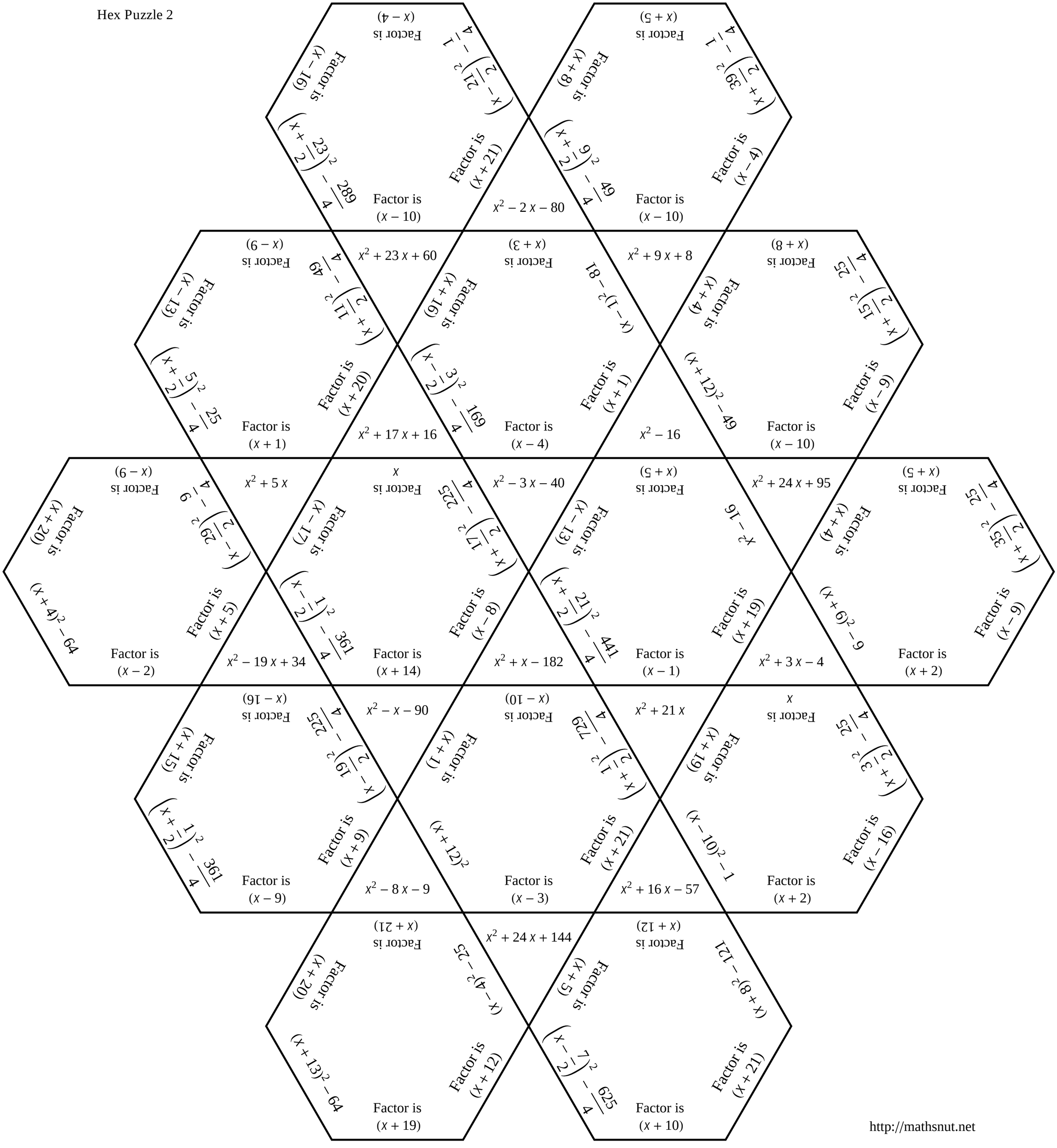


Hex Puzzle 2



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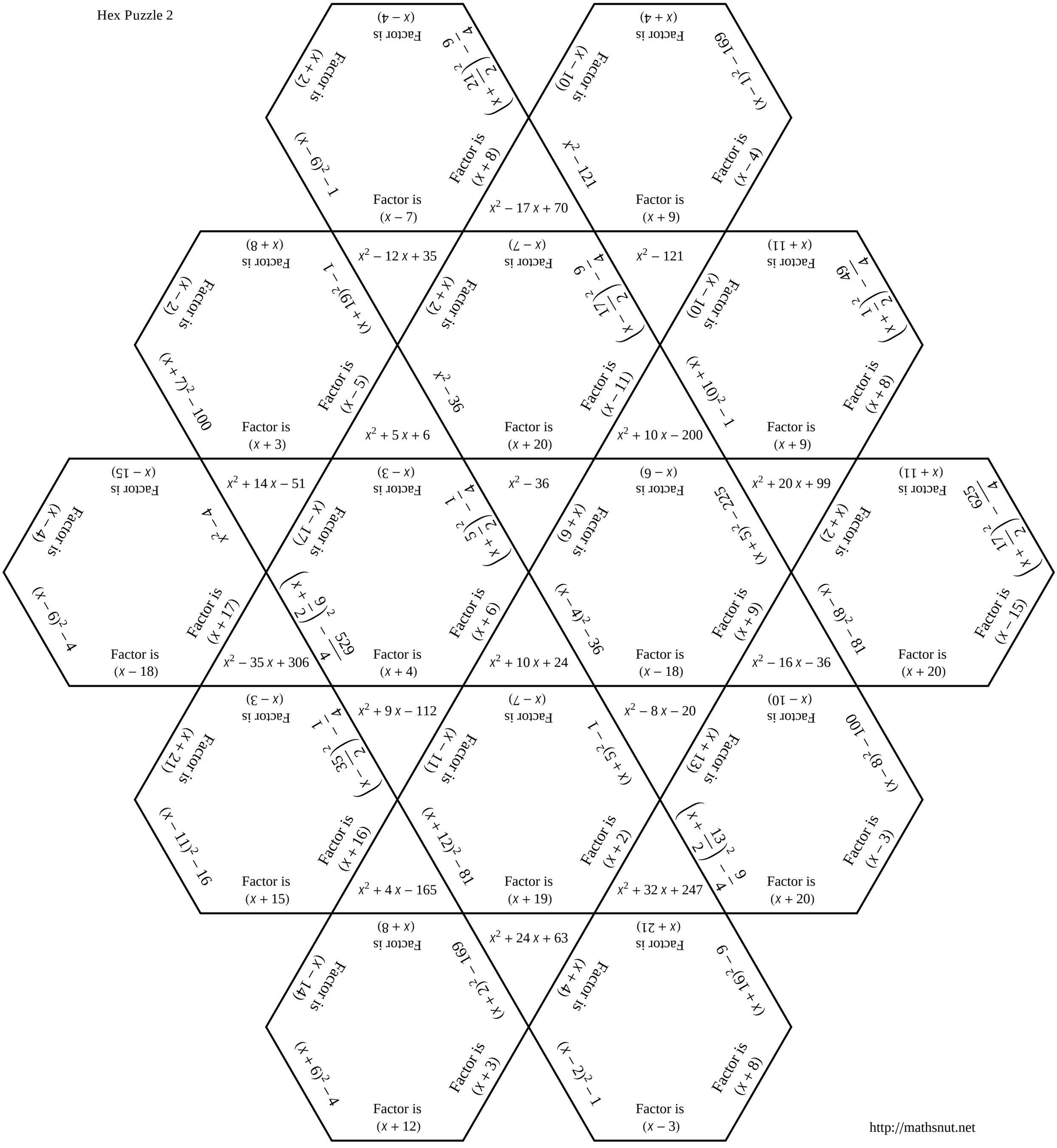
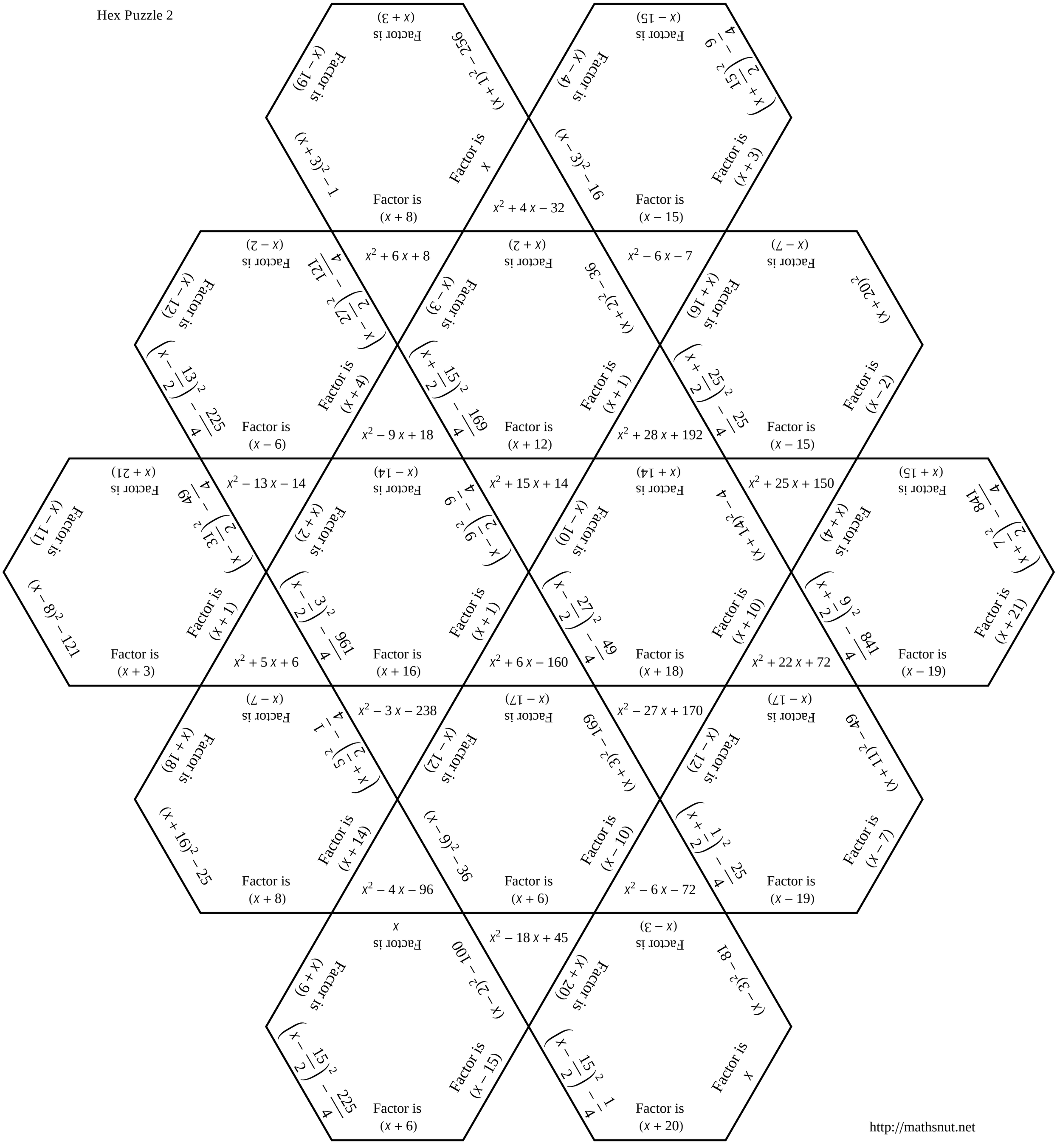
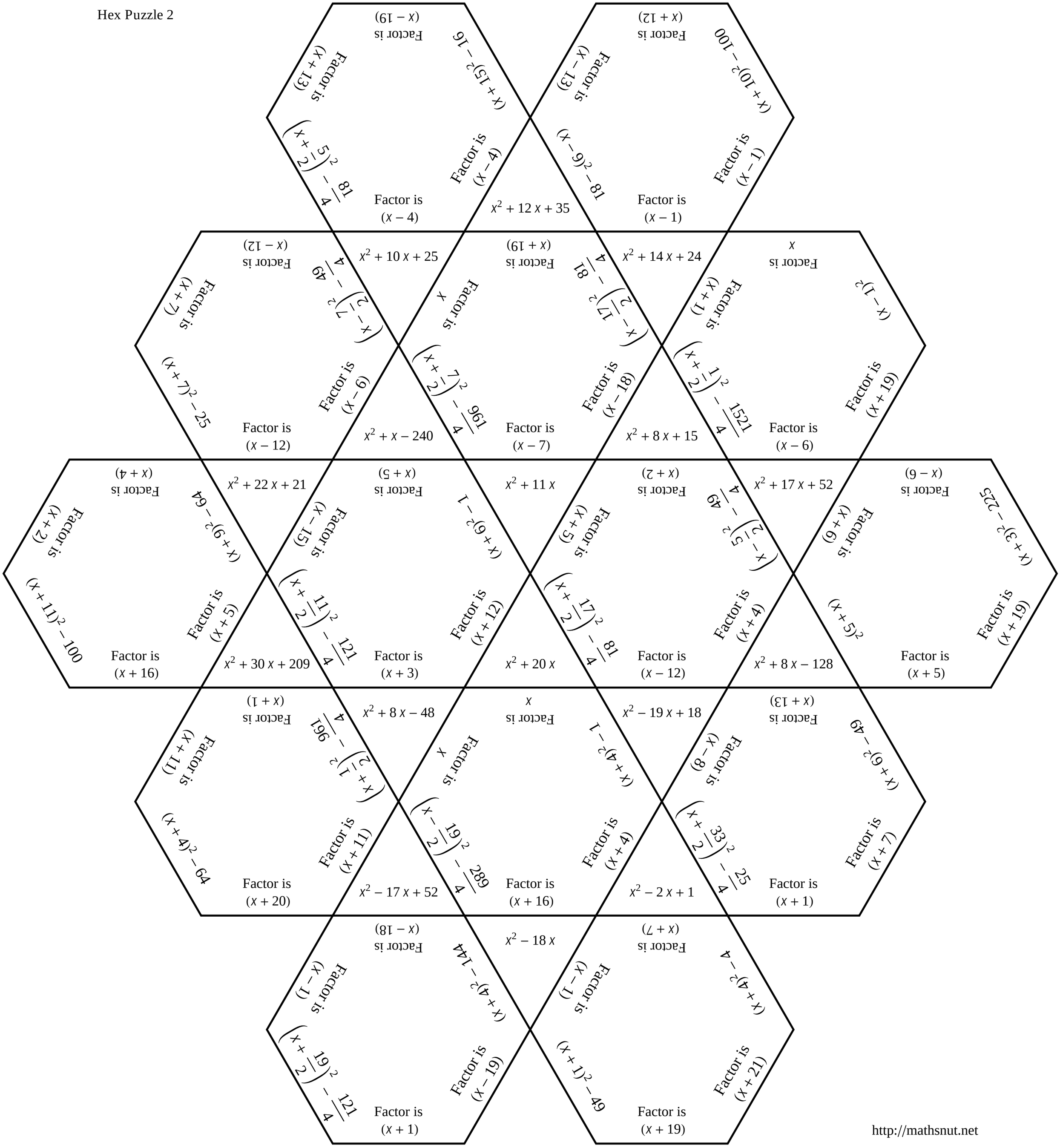
Hex Puzzle 2



Hex Puzzle 2



Hex Puzzle 2



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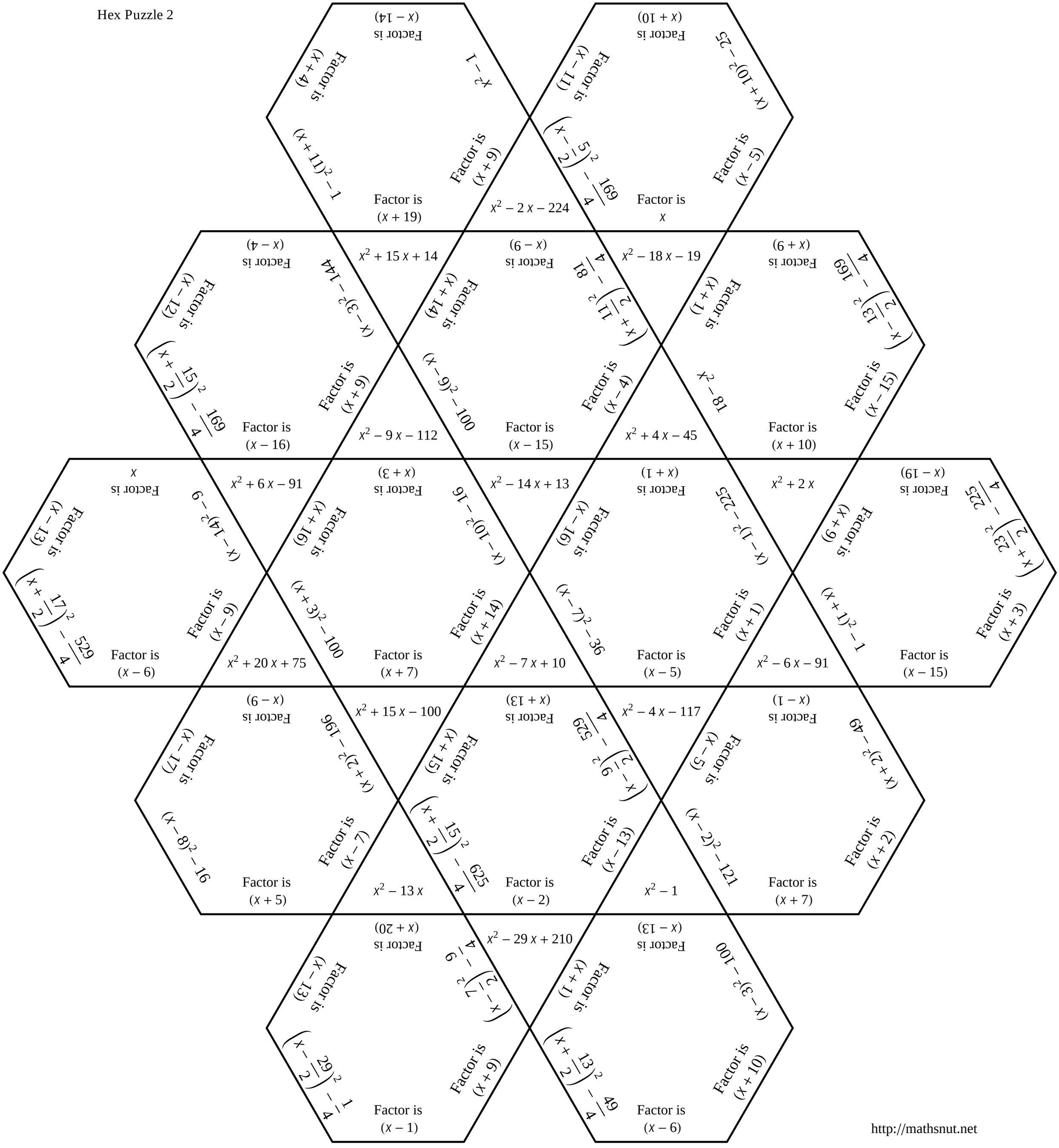
Hex Puzzle 2



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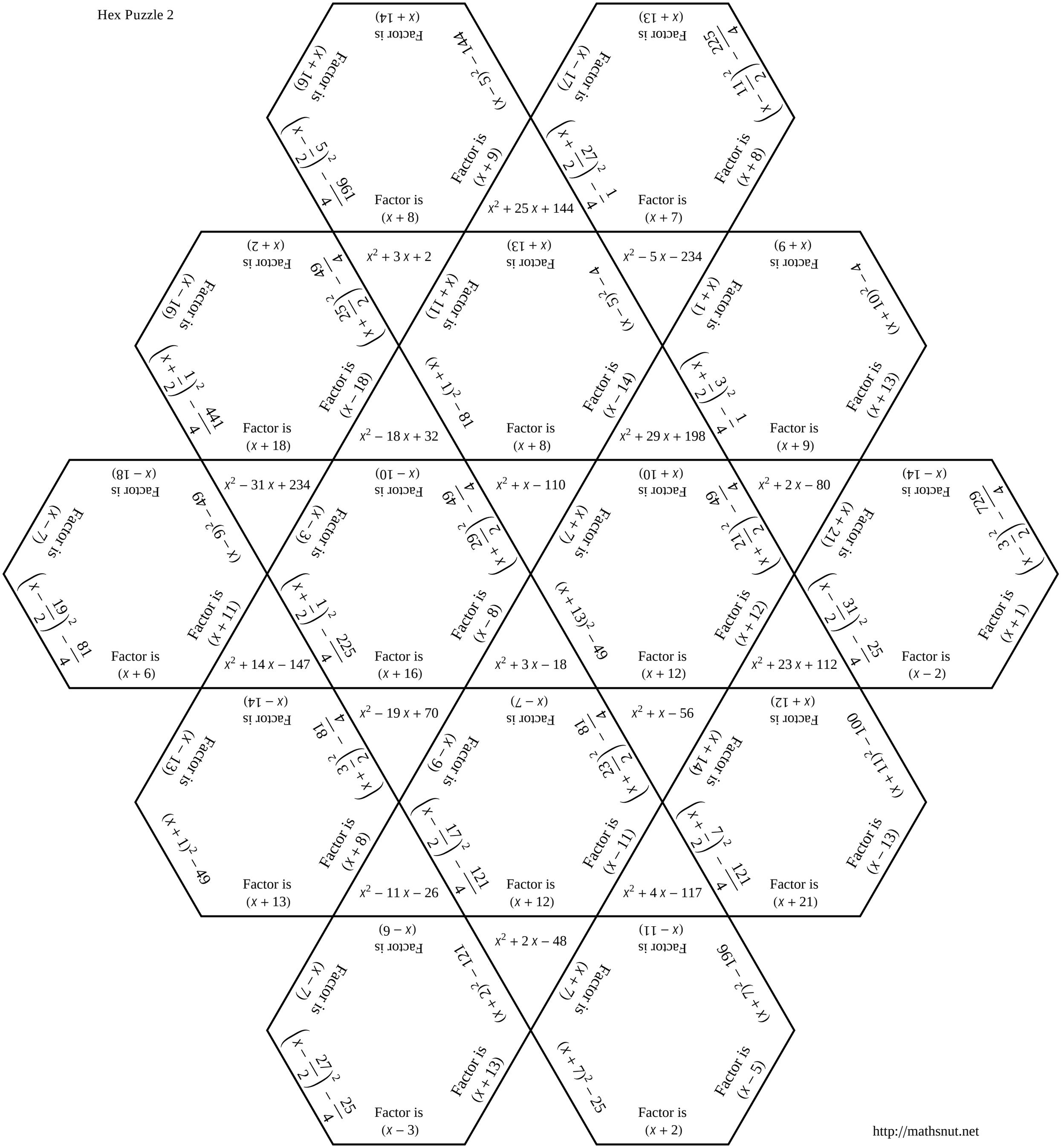
Hex Puzzle 2



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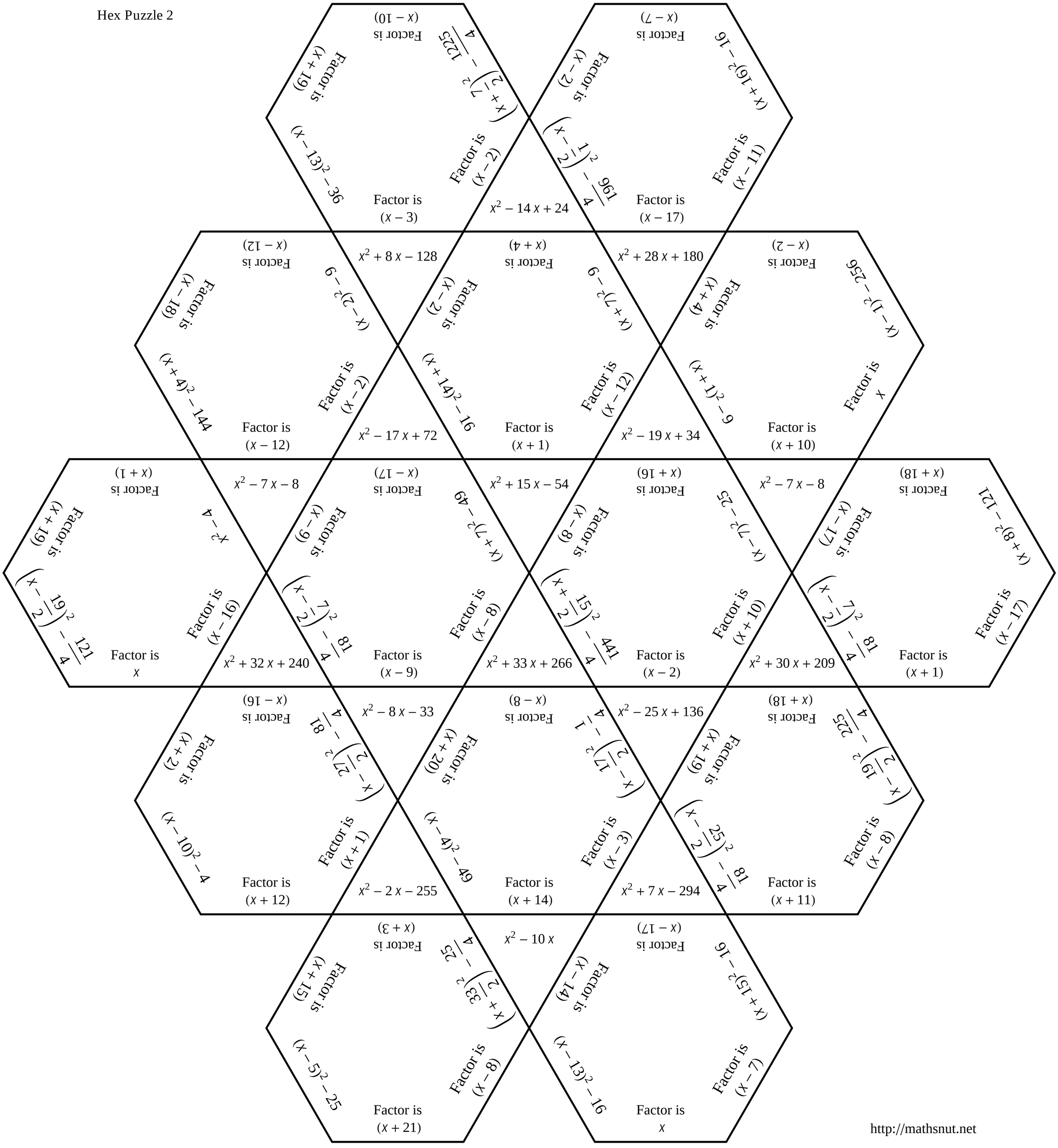
Hex Puzzle 2



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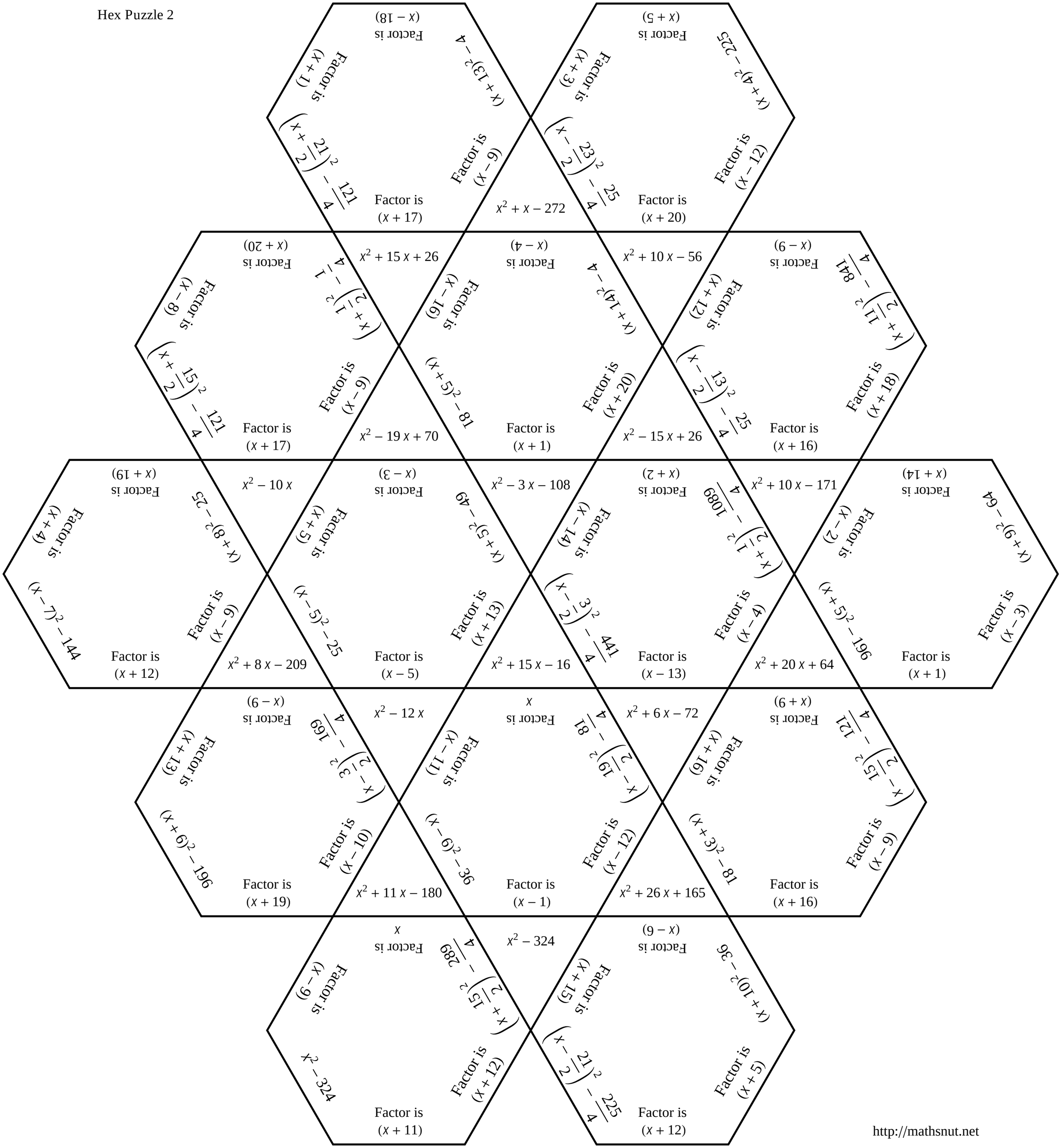
Hex Puzzle 2



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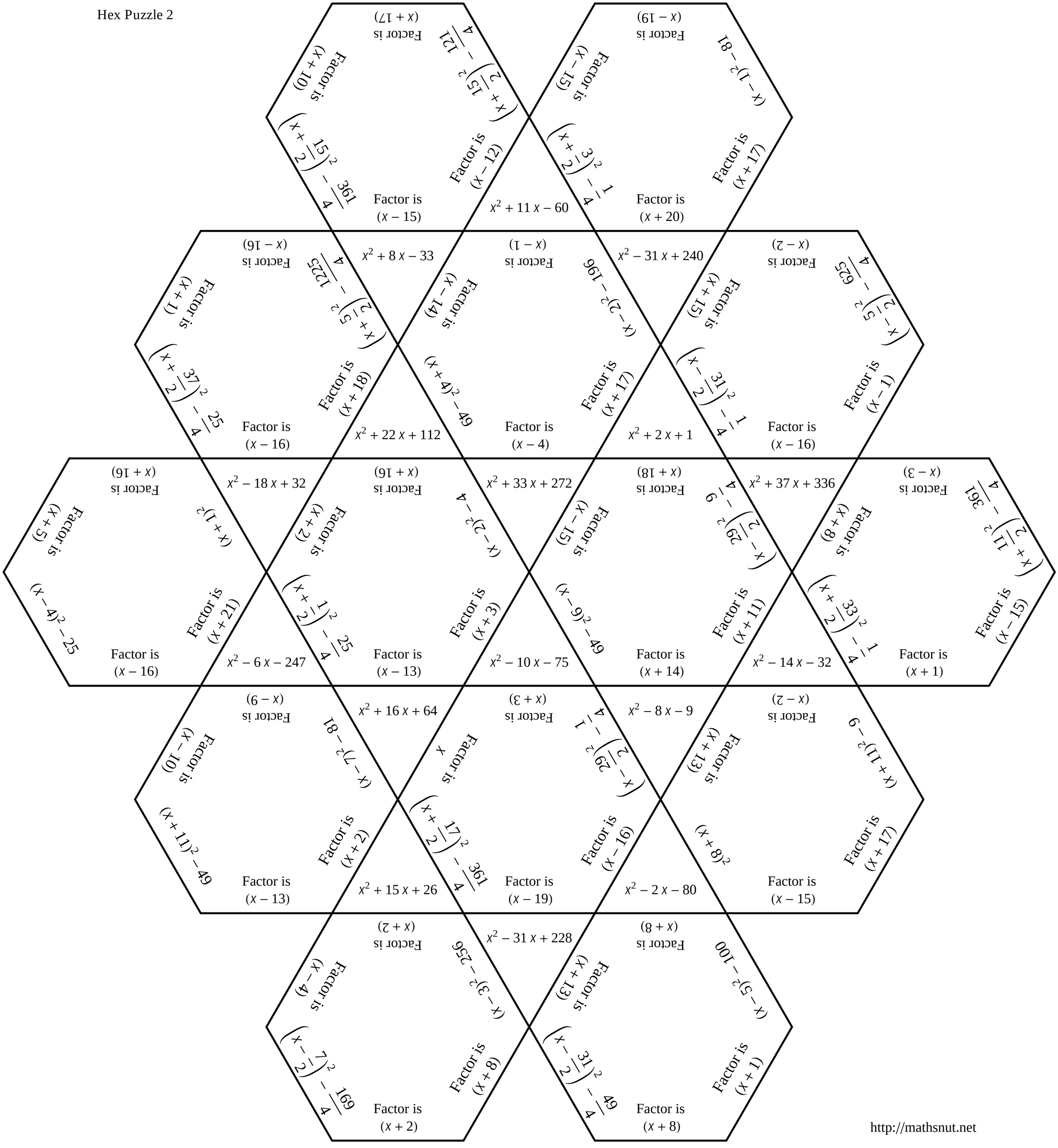
Hex Puzzle 2



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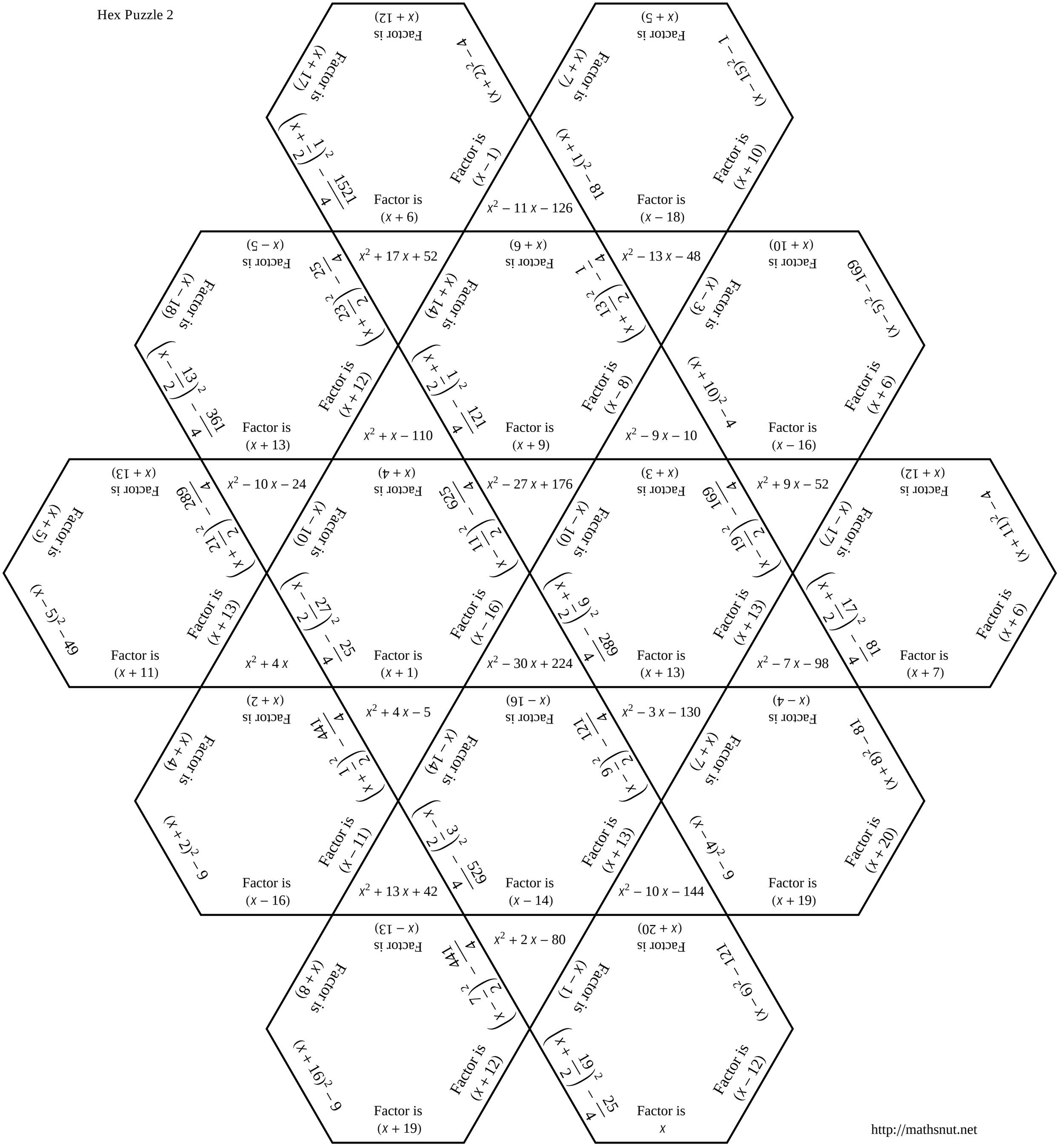
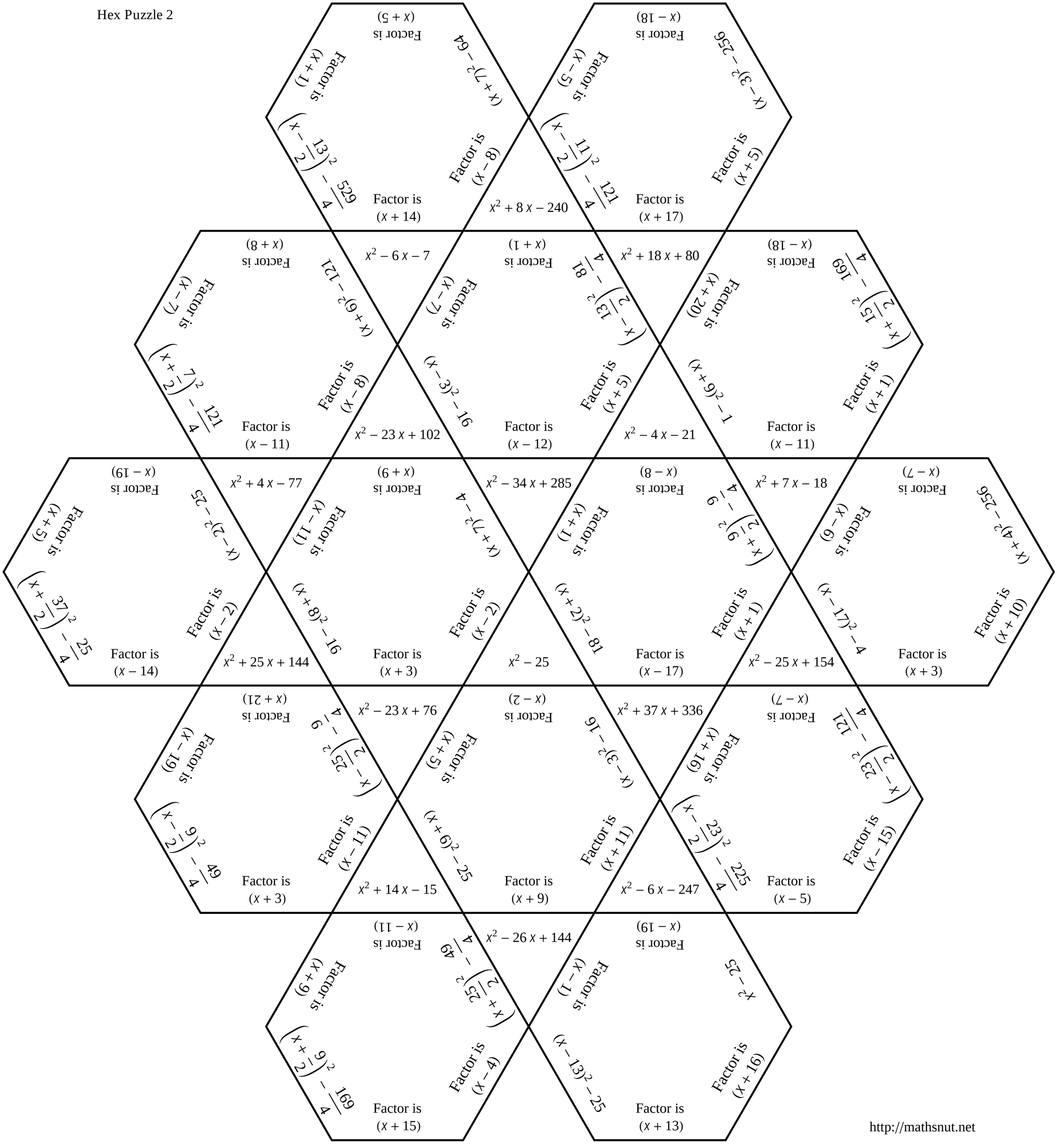
Hex Puzzle 2



Hex Puzzle 2



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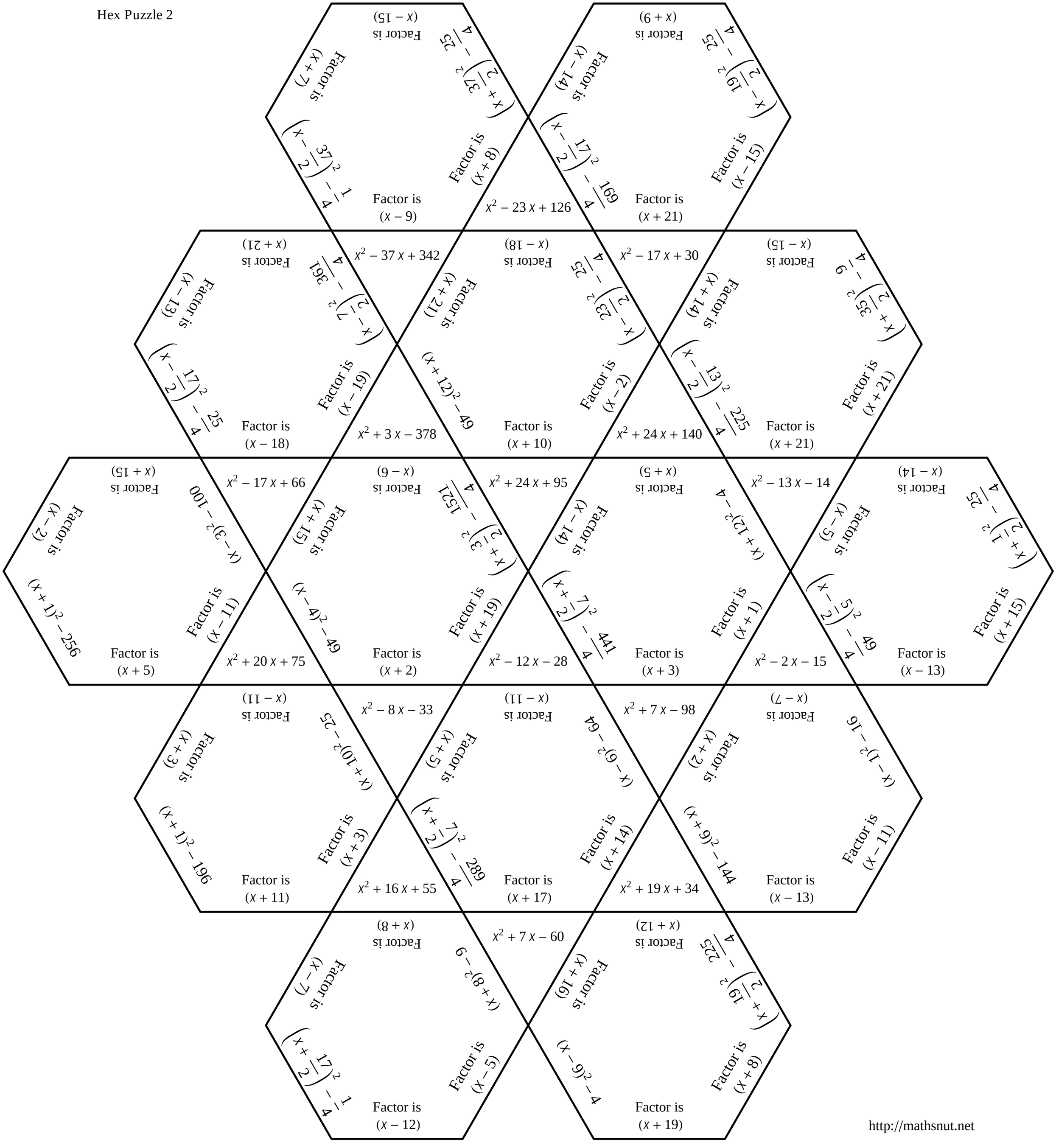
Hex Puzzle 2



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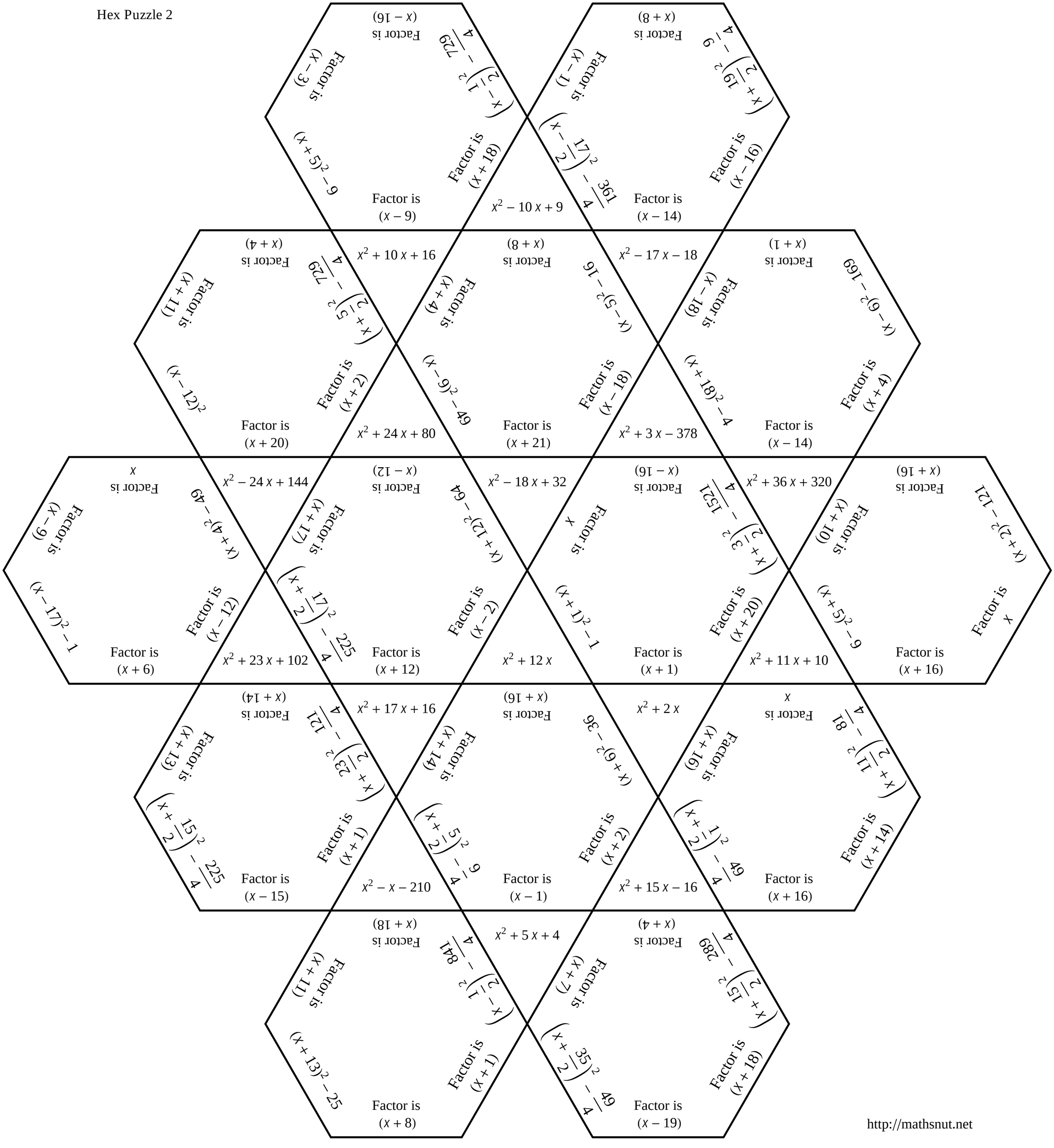
Hex Puzzle 2


Factor is (x − 16)
Factor is (x − 3)
(x − 12)²
Factor is (x + 20)
Factor is (x − 9)
(x + 4)² − 49
Factor is (x − 12)
(x − 17)² − 1
Factor is (x + 6)
Factor is (x + 8)
Factor is (x + 18)
6 − (5 + x)²
Factor is (x − 9)
Factor is (x + 11)
Factor is (x + 13)
Factor is (x − 15)
Factor is (x + 8)
Factor is (x − 1)
Factor is (x − 14)
Factor is (x + 16)
Factor is (x + 4)
Factor is (x + 2)
Factor is (x + 1)
Factor is (x + 14)
Factor is (x + 1)
Factor is (x + 4)
Factor is (x + 17)
Factor is (x − 2)
Factor is (x − 18)
Factor is (x + 4)
Factor is (x + 16)
Factor is (x + 14)
Factor is (x + 12)
Factor is (x + 21)
Factor is (x − 14)
Factor is (x + 16)
Factor is (x + 12)
Factor is (x + 1)
Factor is (x + 20)
Factor is (x + 16)
Factor is (x + 7)
Factor is (x + 1)
Factor is (x + 18)
Factor is (x + 8)
Factor is (x − 19)
Factor is (x − 6)
Factor is (x + 1)
Factor is (x + 16)
Factor is (x + 2)
Factor is (x + 14)
Factor is (x + 18)
Factor is (x − 19)
x² + 10 x + 16
x² + 24 x + 80
x² − 24 x + 144
x² + 23 x + 102
x² + 17 x + 16
x² − x − 210
x² + 5 x + 4
x² − 10 x + 9
x² + 3 x − 378
x² − 18 x + 32
x² + 12 x
x² + 2 x
x² + 15 x − 16
x² − 17 x − 18
x² + 36 x + 320
x² + 11 x + 10
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