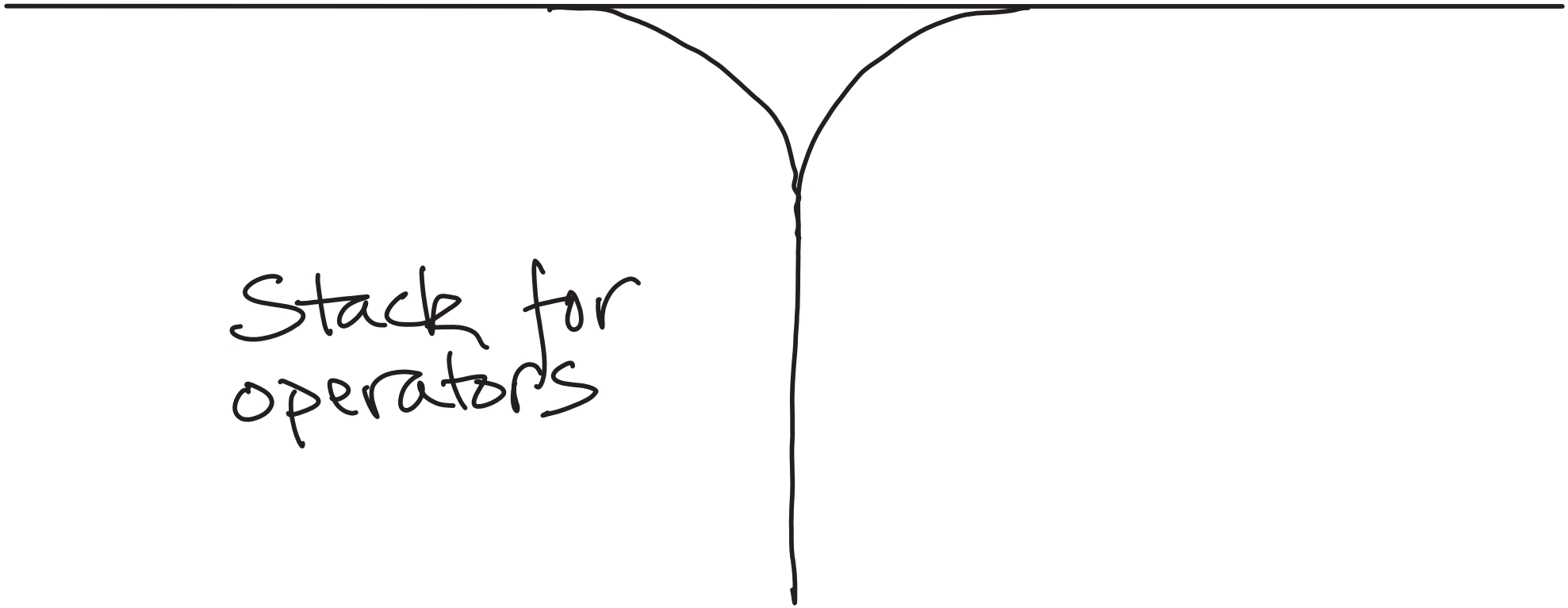
Dijkstra's Shunting-Yard Algorithm

Converts ordinary (infix) notation to reverse Polish

Output (RPN)

Input (infix)

3 + 5



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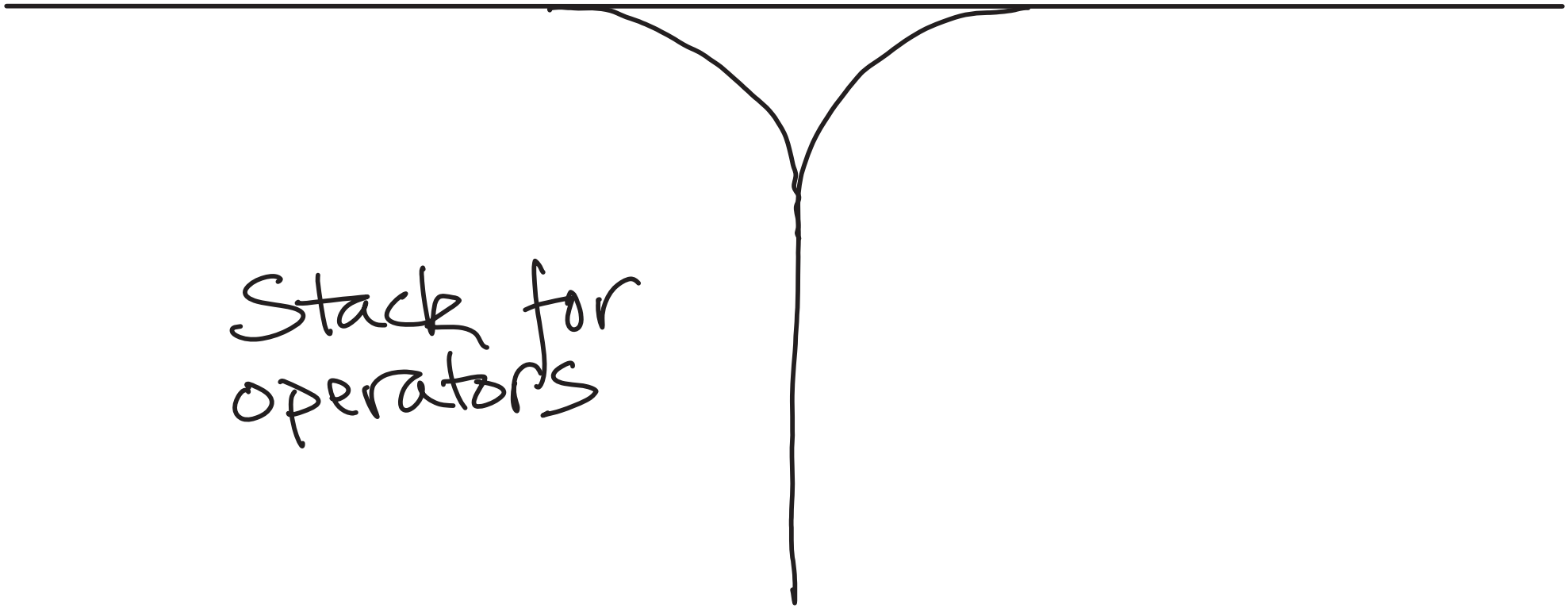

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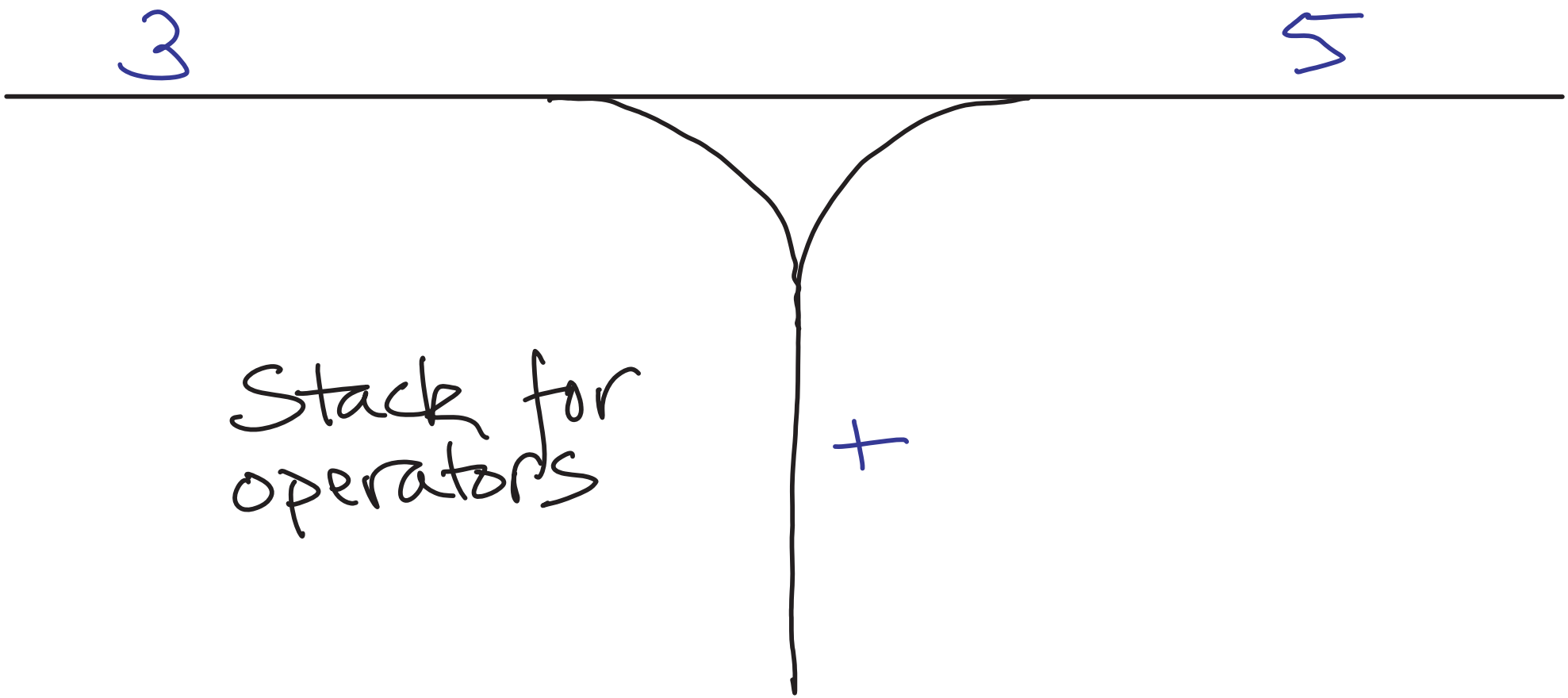

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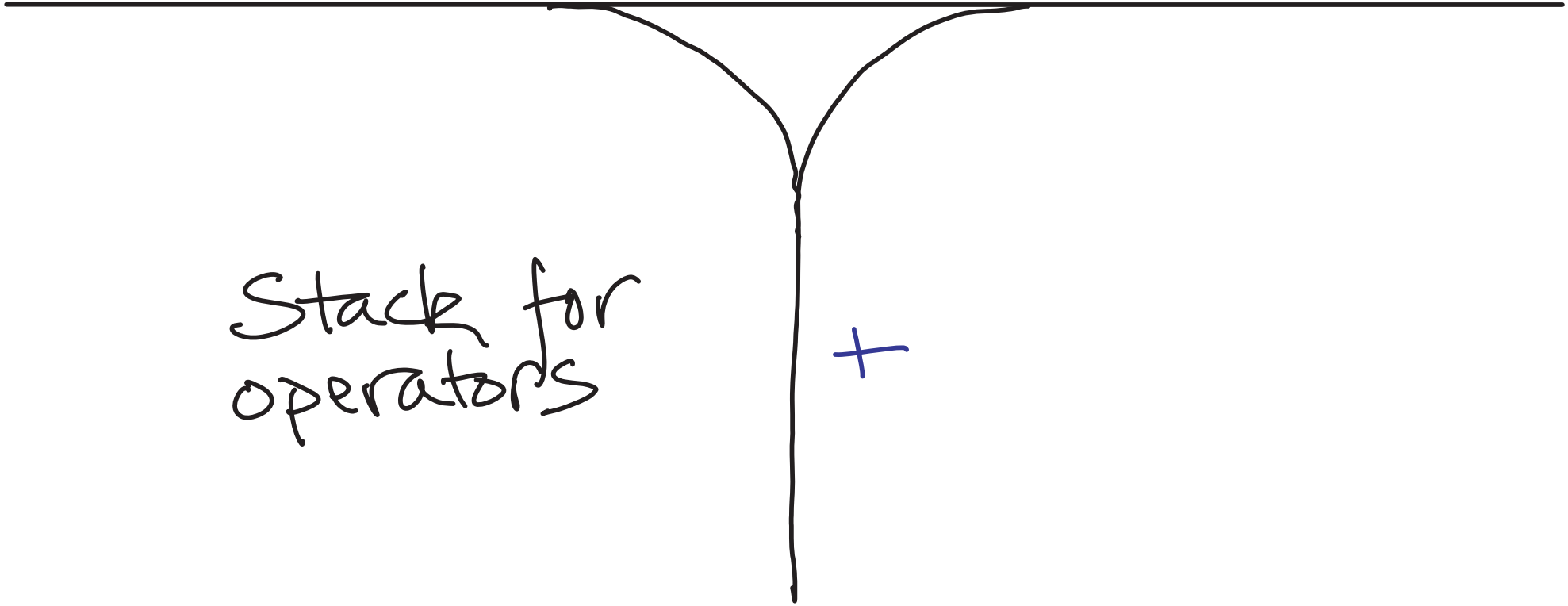

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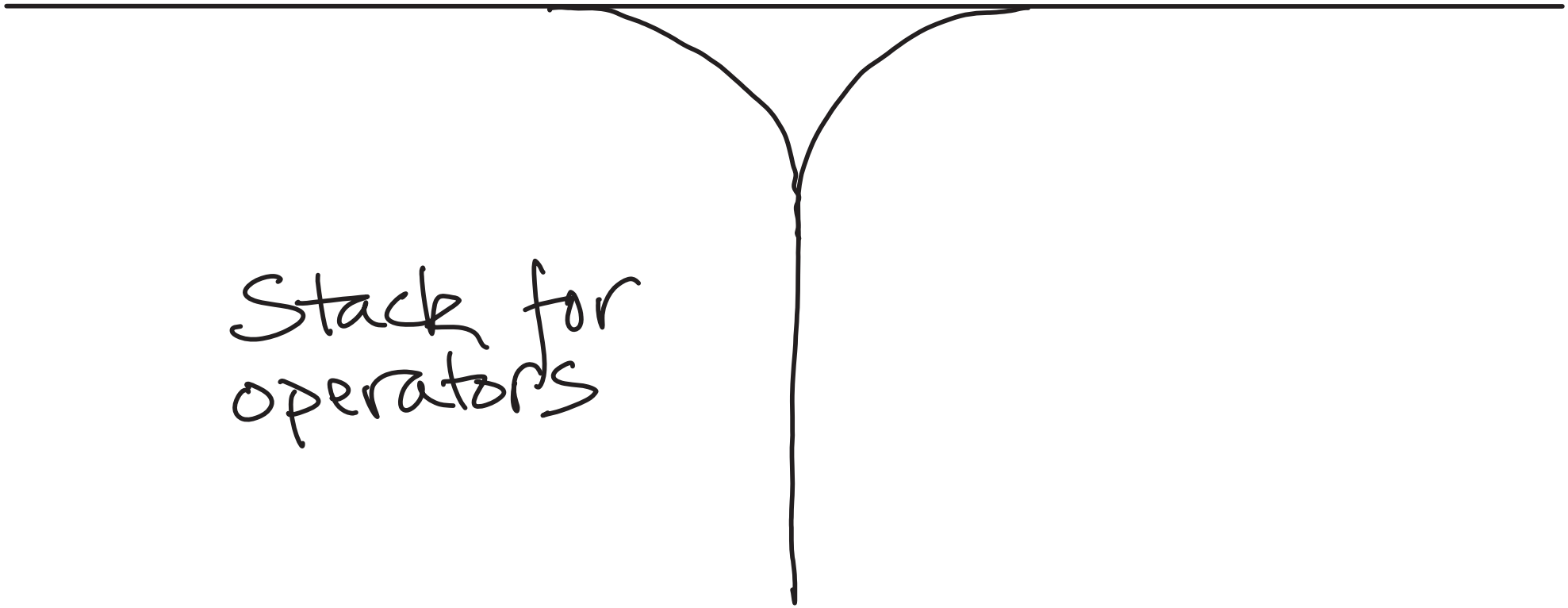
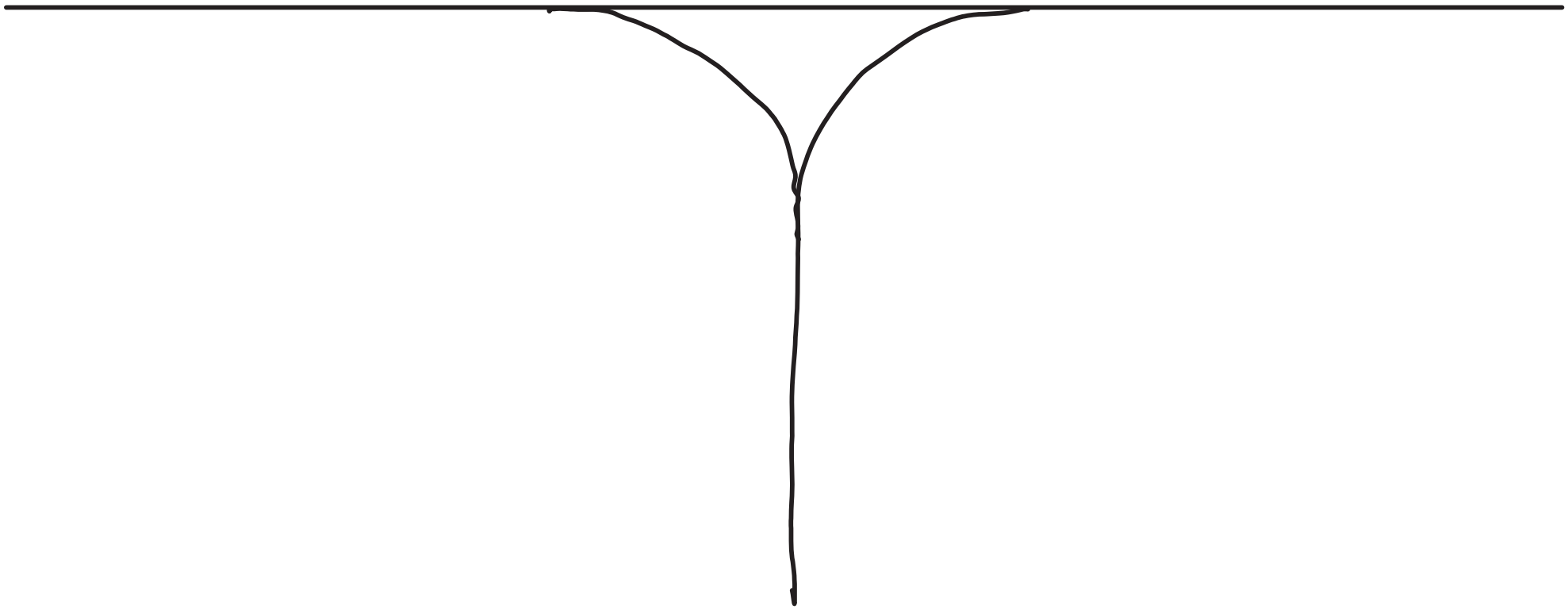


Rules

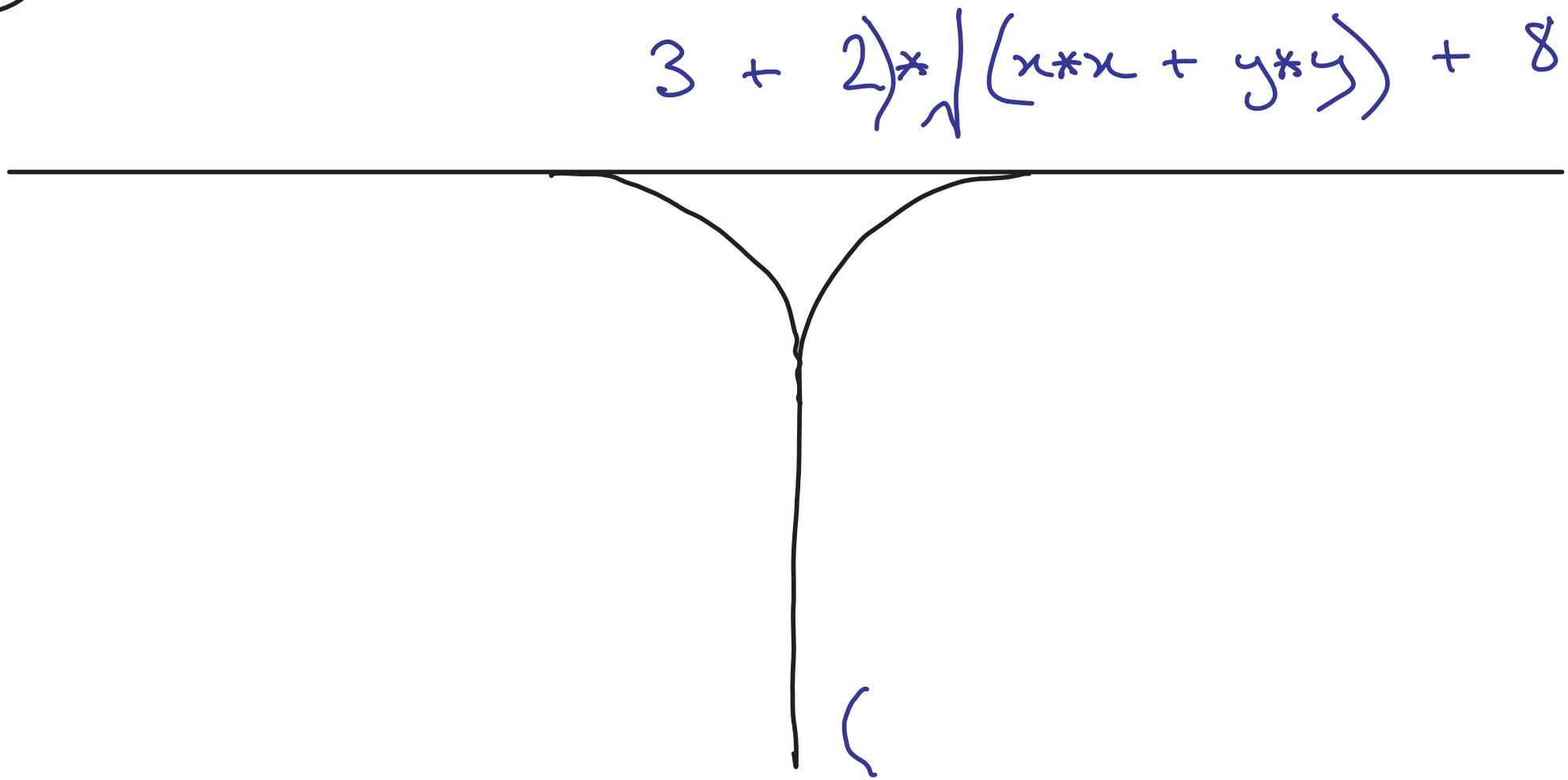
- Input numbers (and variables) go straight to output
- Input (goes to stack
- Input) pops stack to output, as far as matching (
- Input function or infix operator goes to stack, but first pops stack to output, up to - but not including - something of lower precedence
- End of input pops stack to output

e.g.

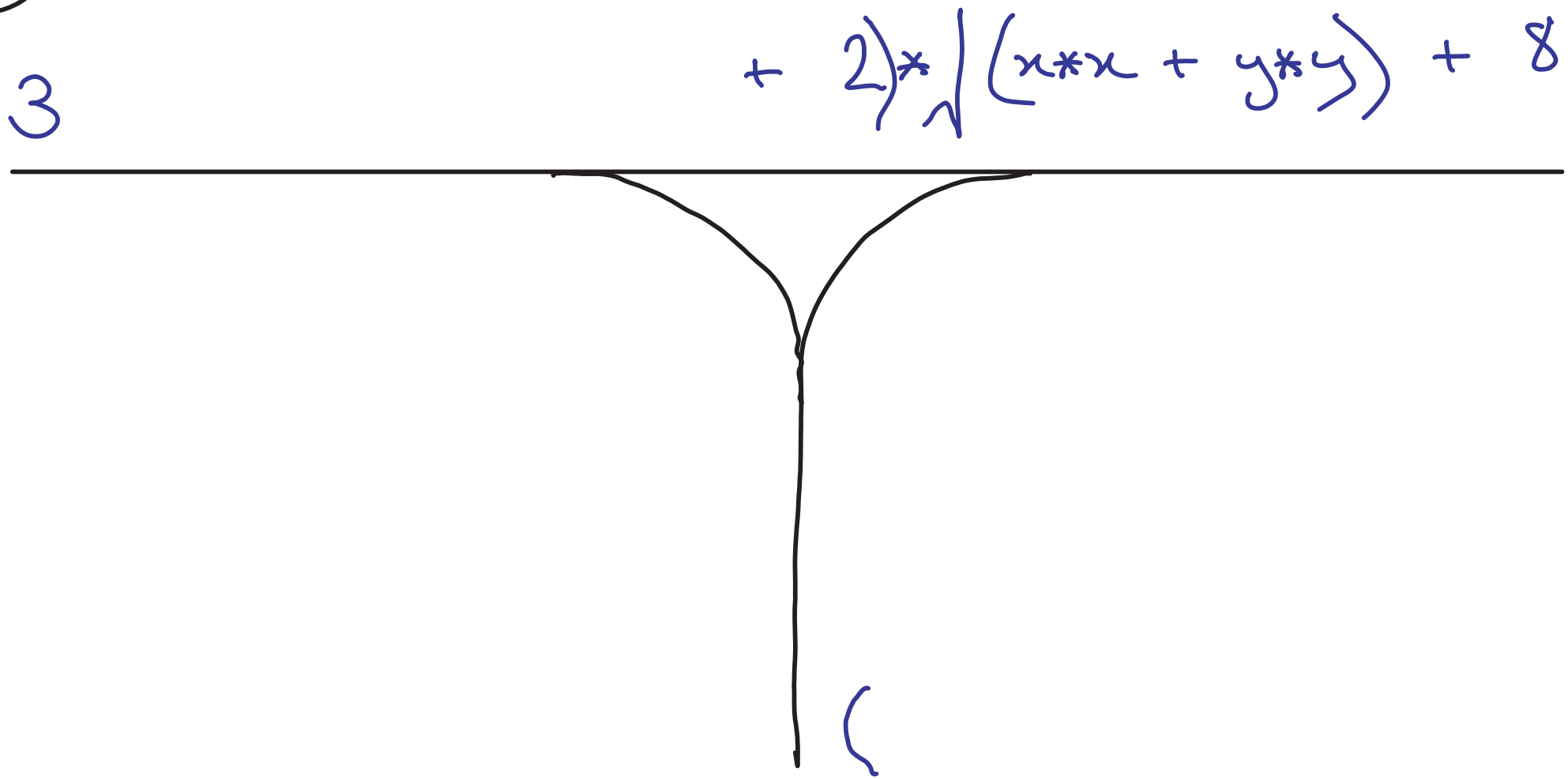
$$(3 + 2) * \sqrt{(x*x + y*y)} + 8$$



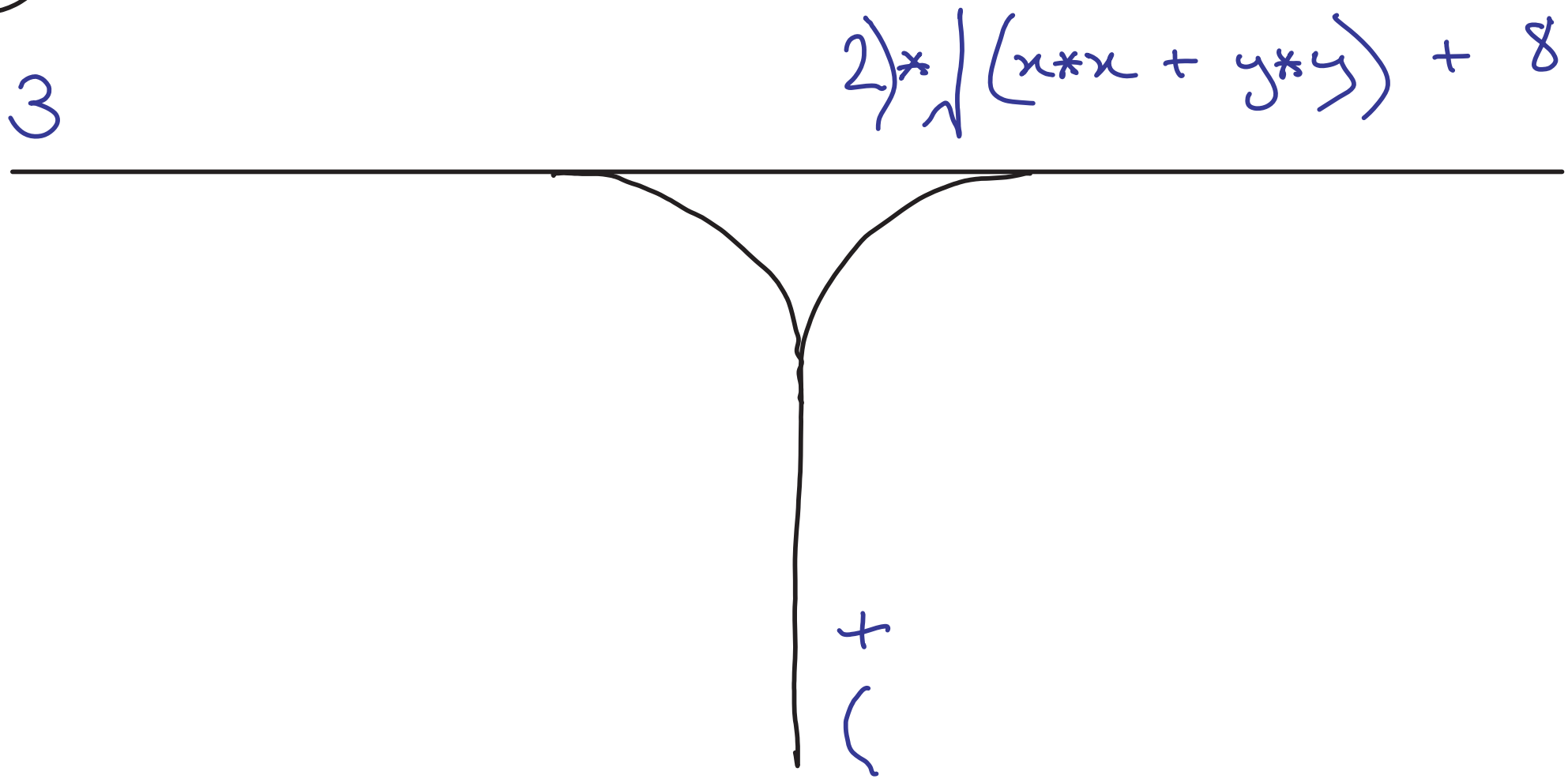
e.g.



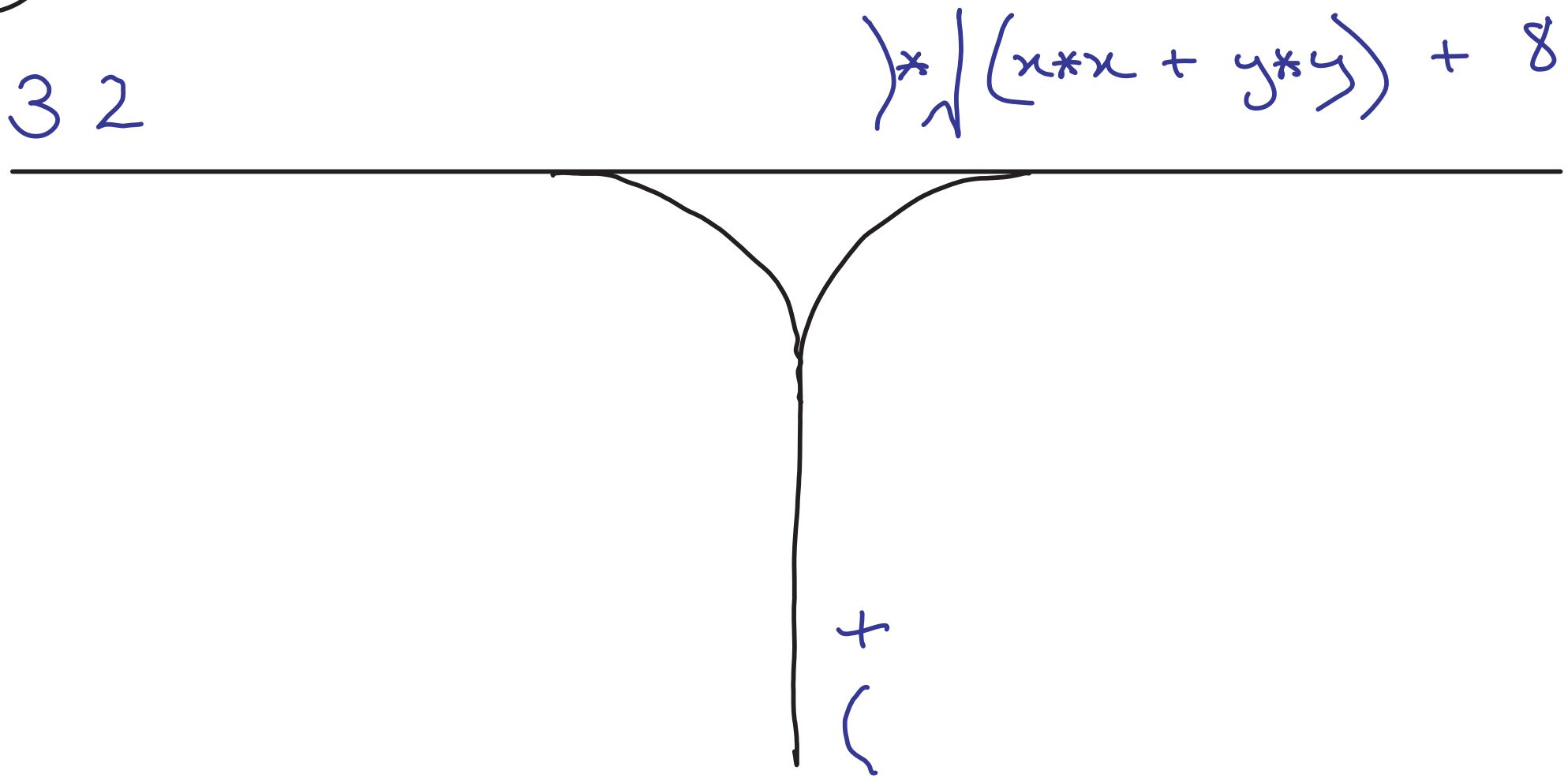
e.g.



e.g.



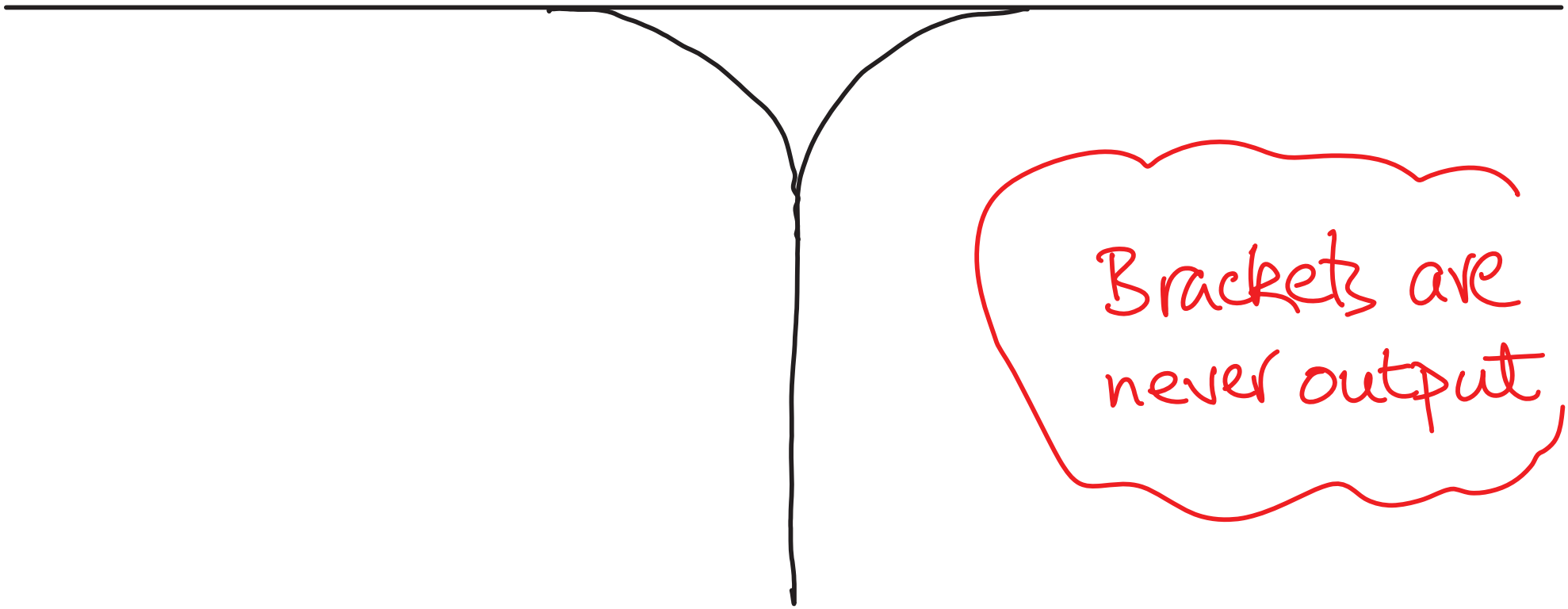
e.g.



e.g.

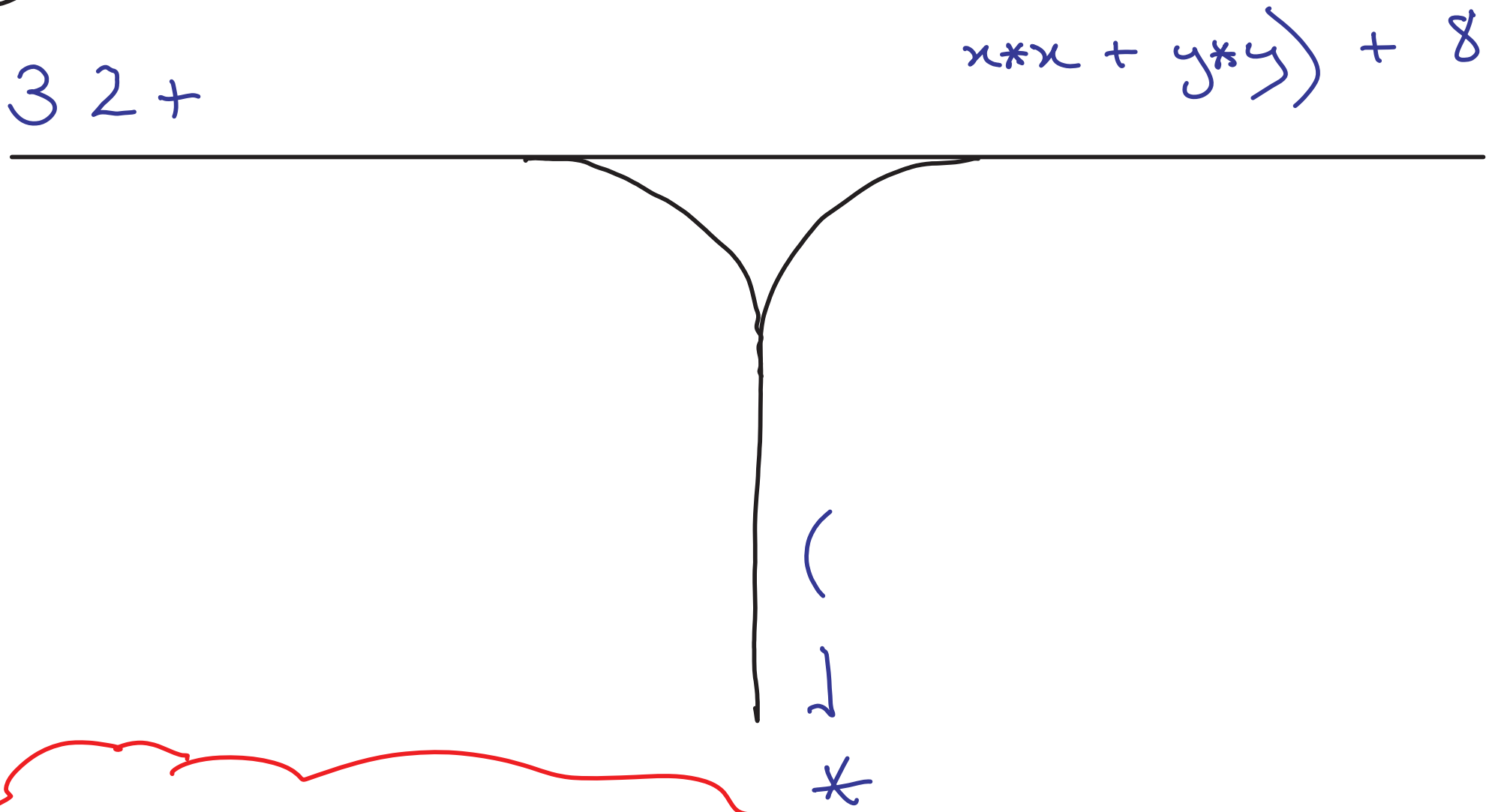
3 2 +

* √ (x*x + y*y) + 8



Brackets are never output

e.g.



Exercise: Finish it