

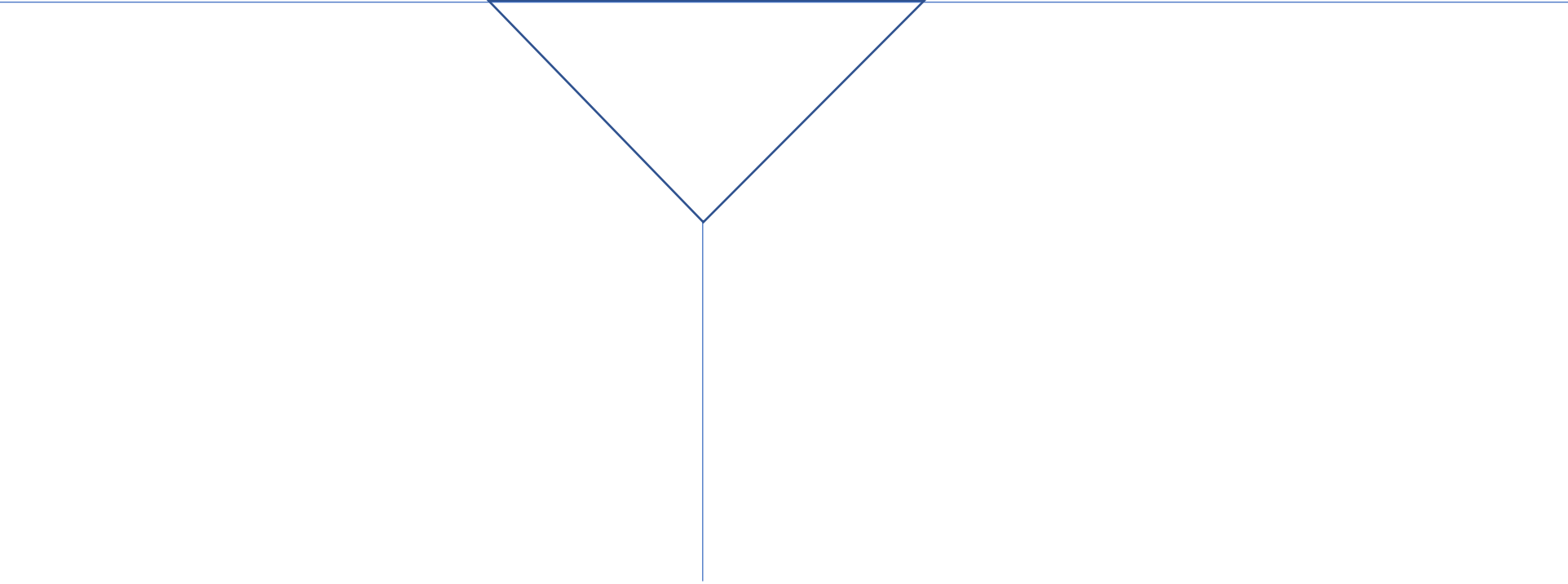
Shunting Yard

Infix to postfix

- BODMAS applies
- $2+4*2 = 10$
- $(2+4)*2 = 12$
- Infix to postfix
 - $2+4*2$ becomes $242*+$
 - $(2+4)*2$ becomes $24+2*$

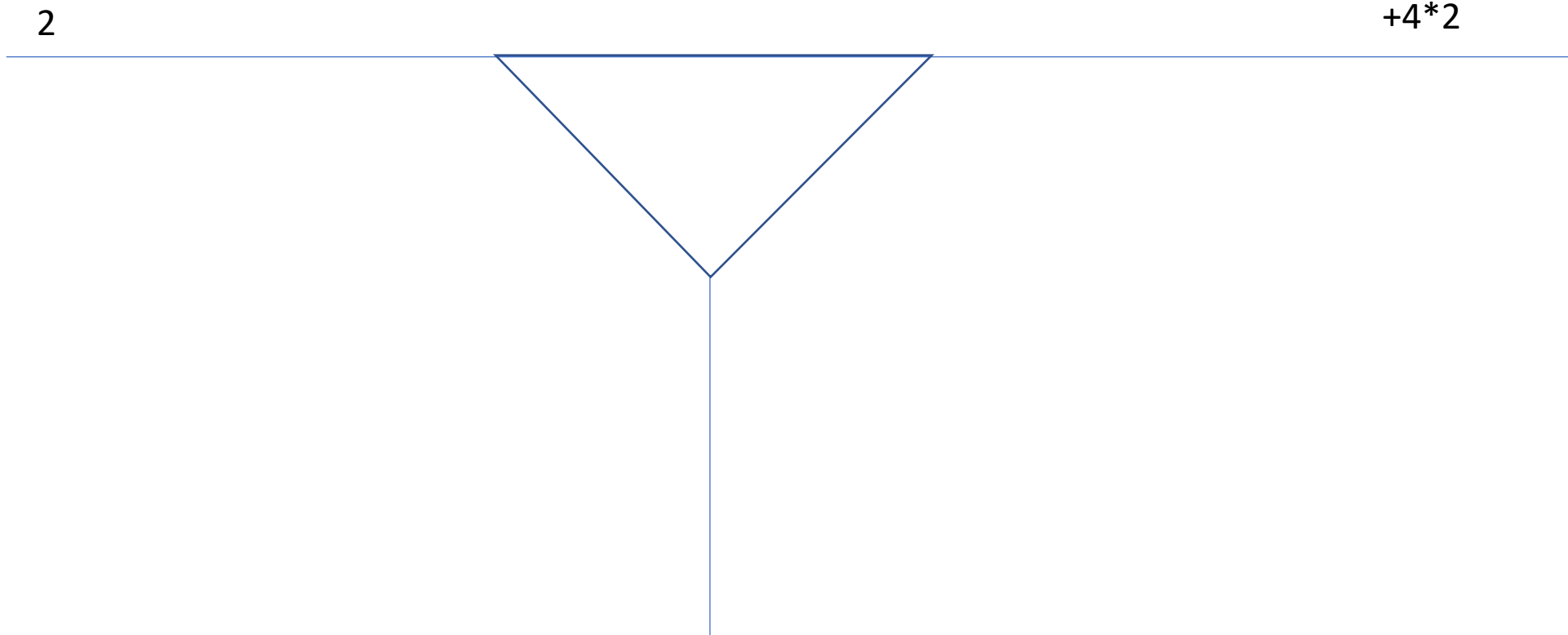
First Example $2+4*2$

$$2+4*2$$

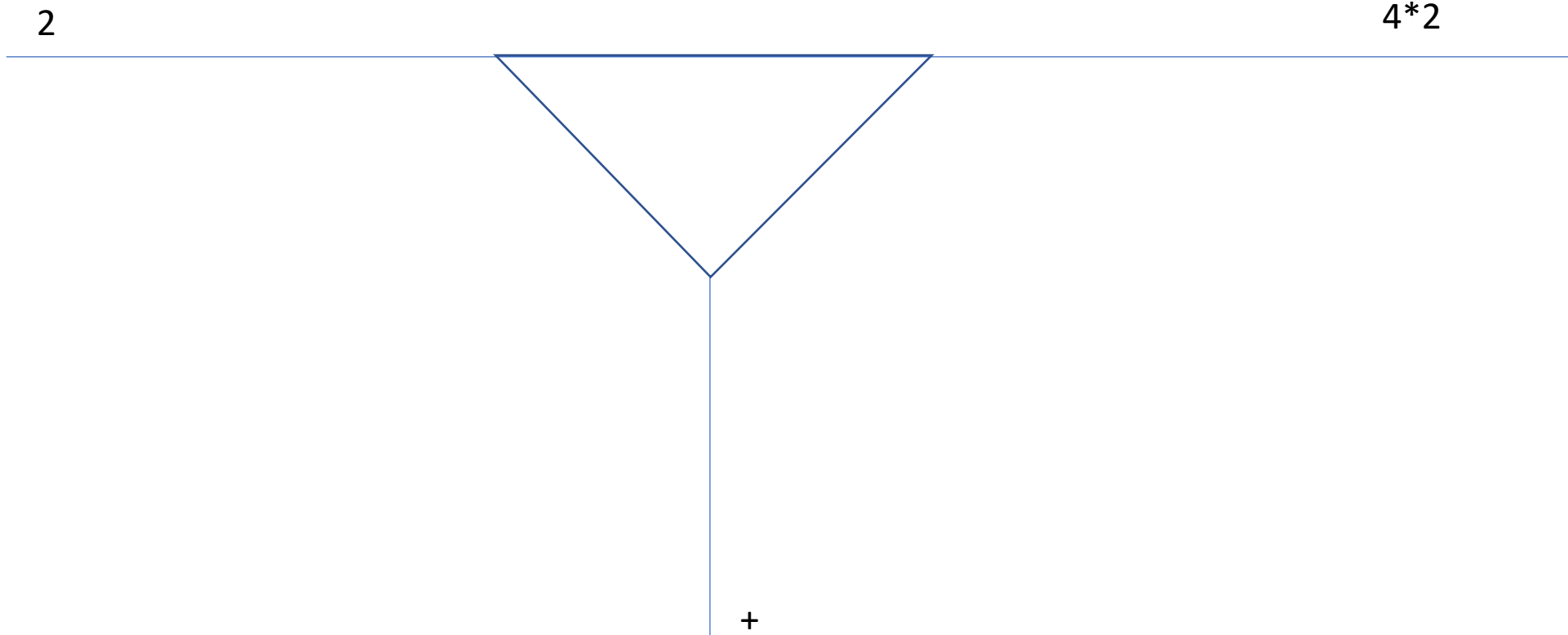
$$2+4*2$$


The diagram consists of a horizontal line. In the center of this line, there is an inverted triangle. From the bottom vertex of this triangle, a vertical line extends downwards.

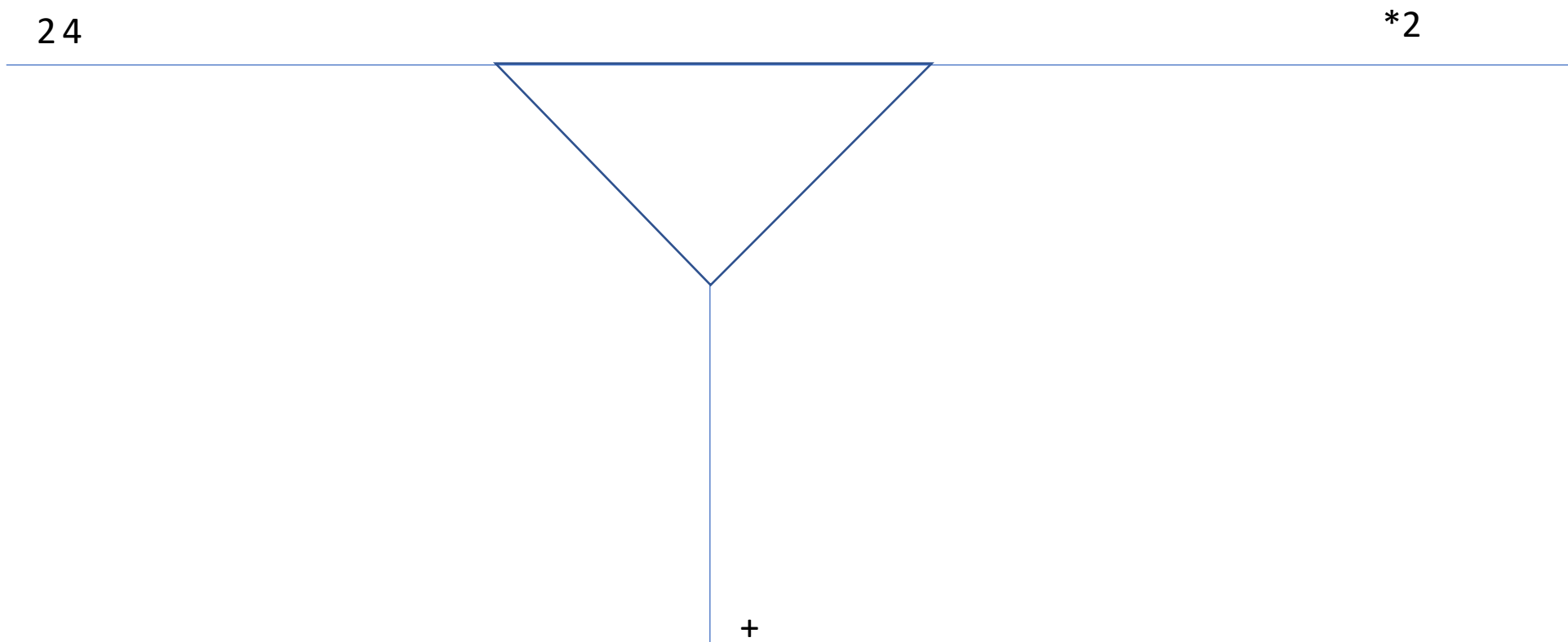
2 goes left



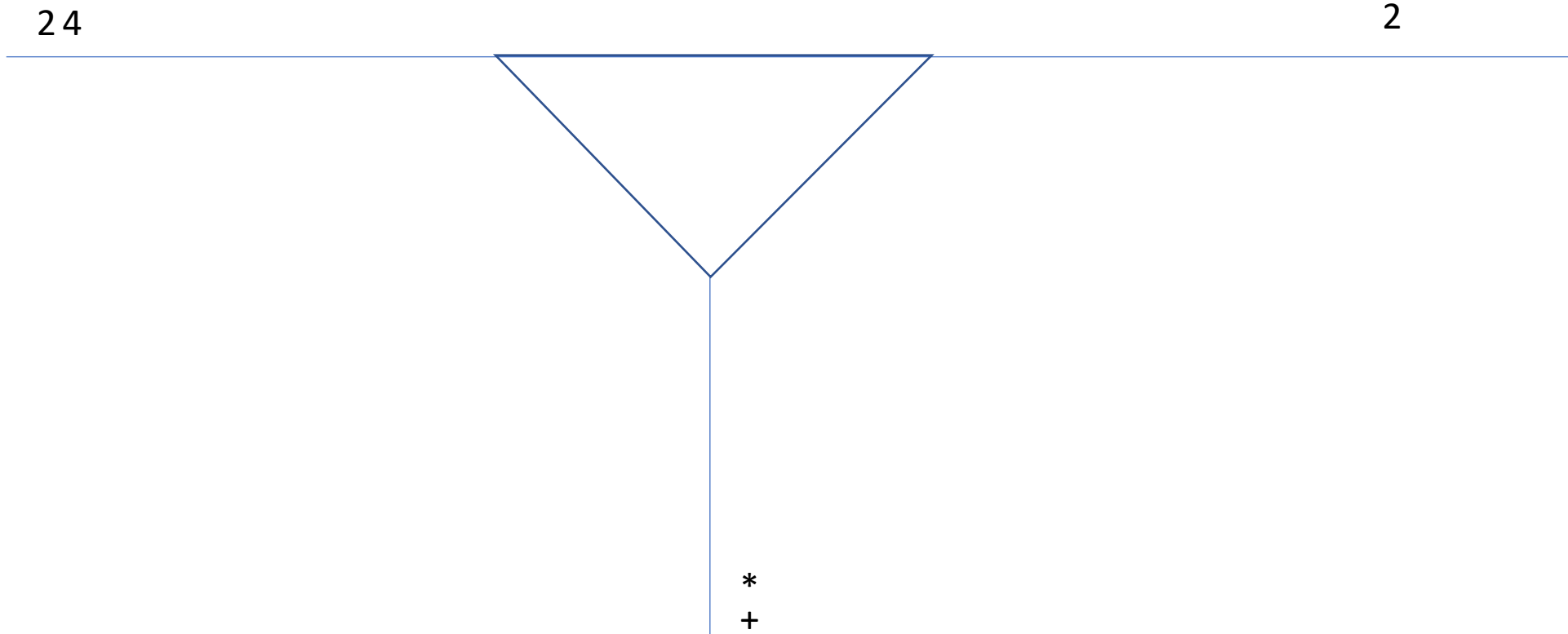
Stack empty + moves down



4 moves across



+ is lower than *, so * moves down



2 goes across

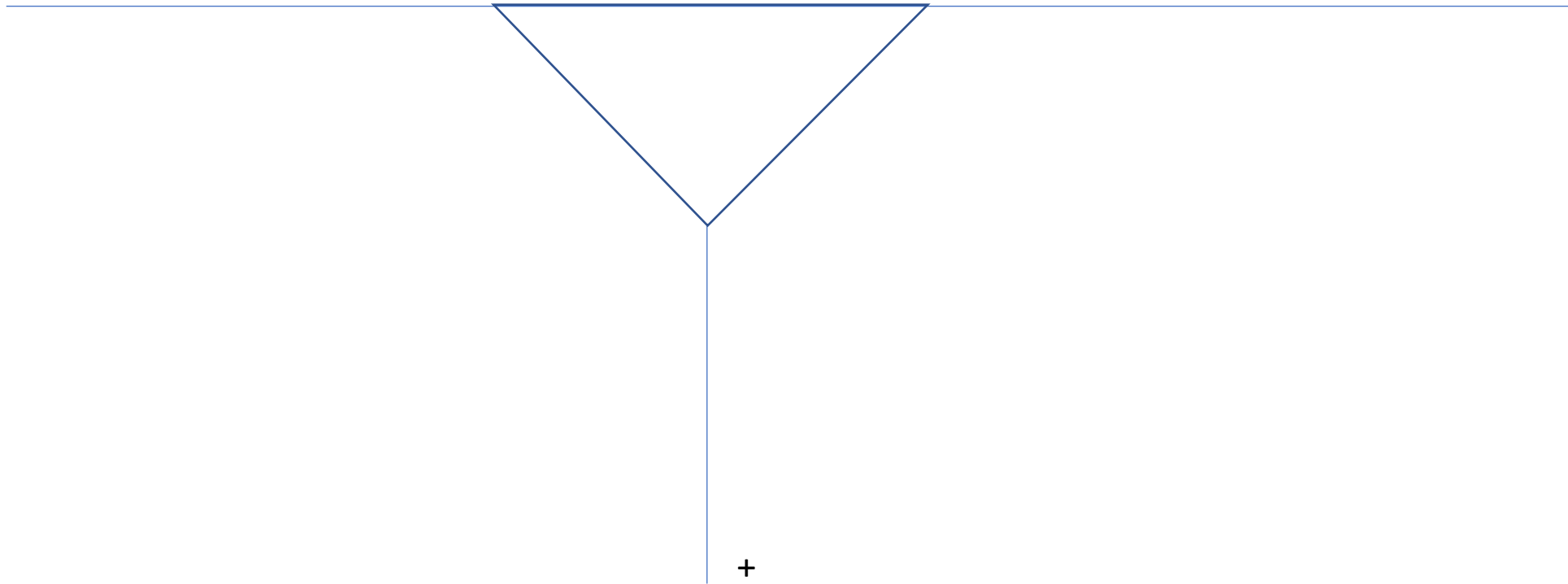
2 4 2

*

+

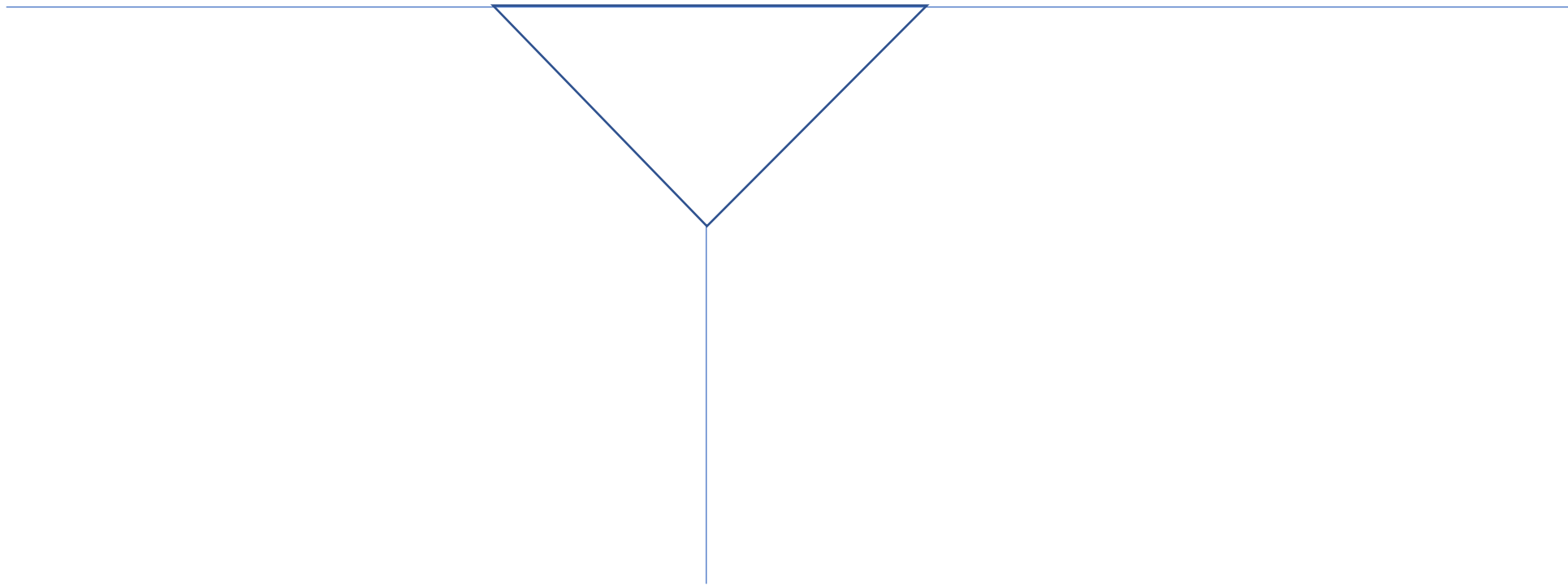
* Comes up

242*



+ Comes up

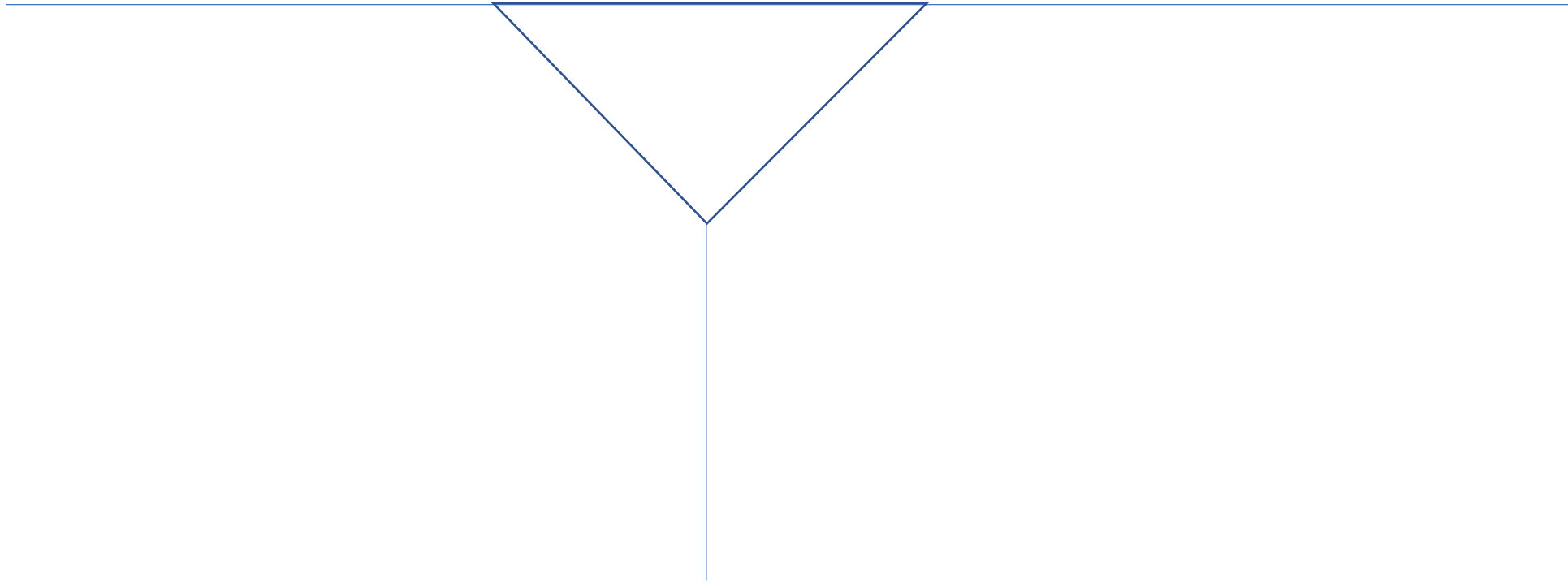
242*+



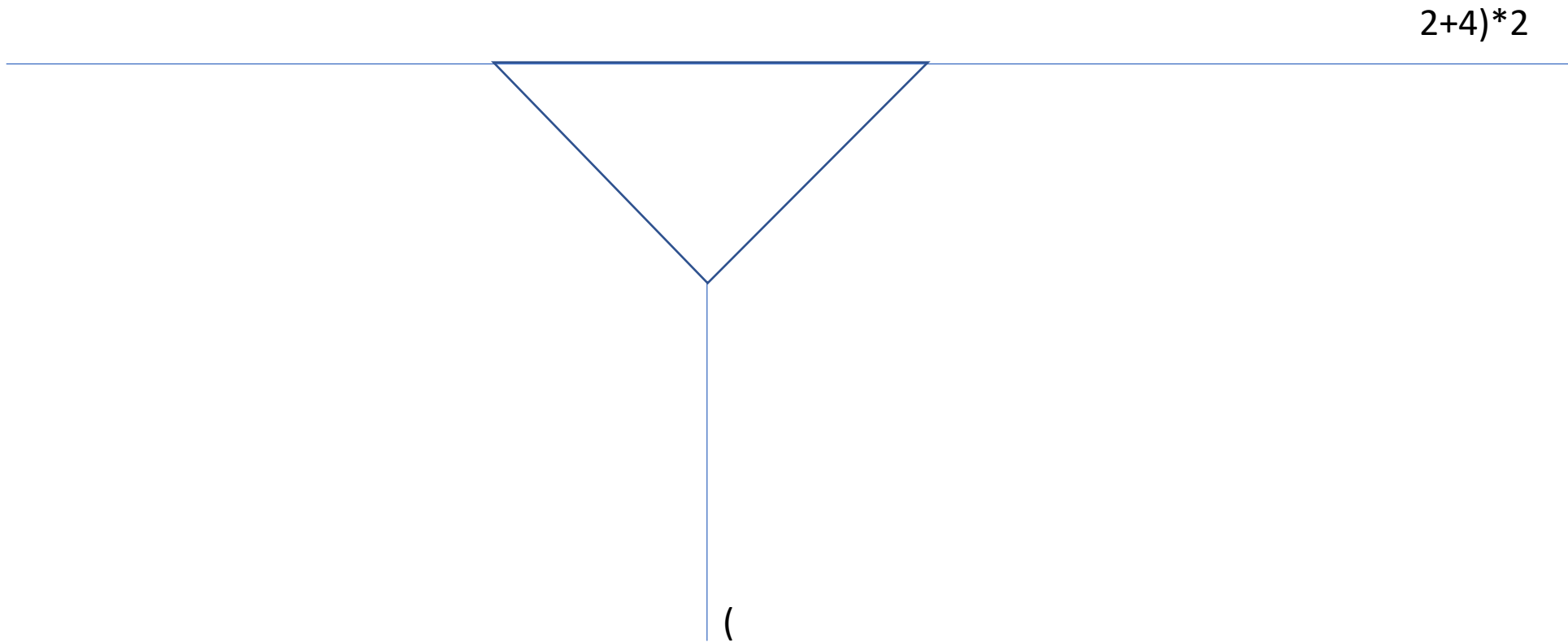
Second Example $(2+4)*2 = 12$

$$(2+4)*2$$

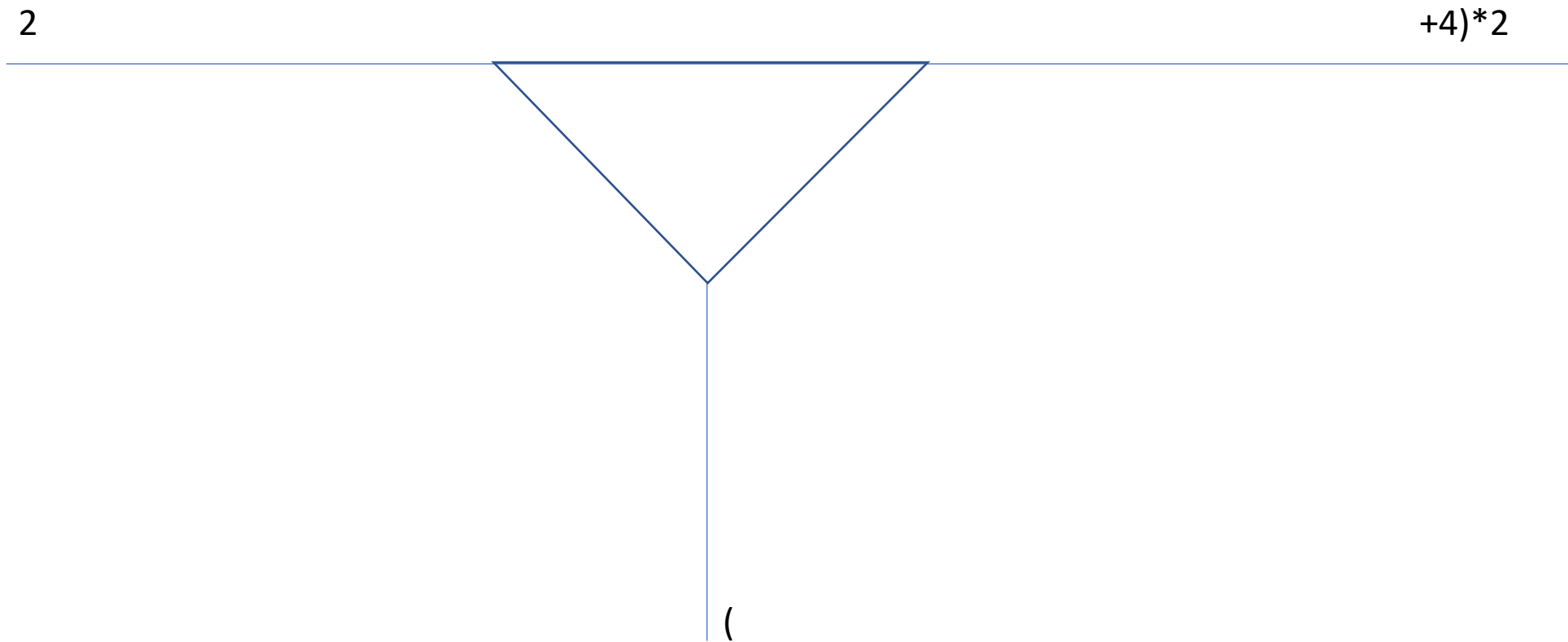
$$(2+4)*2$$



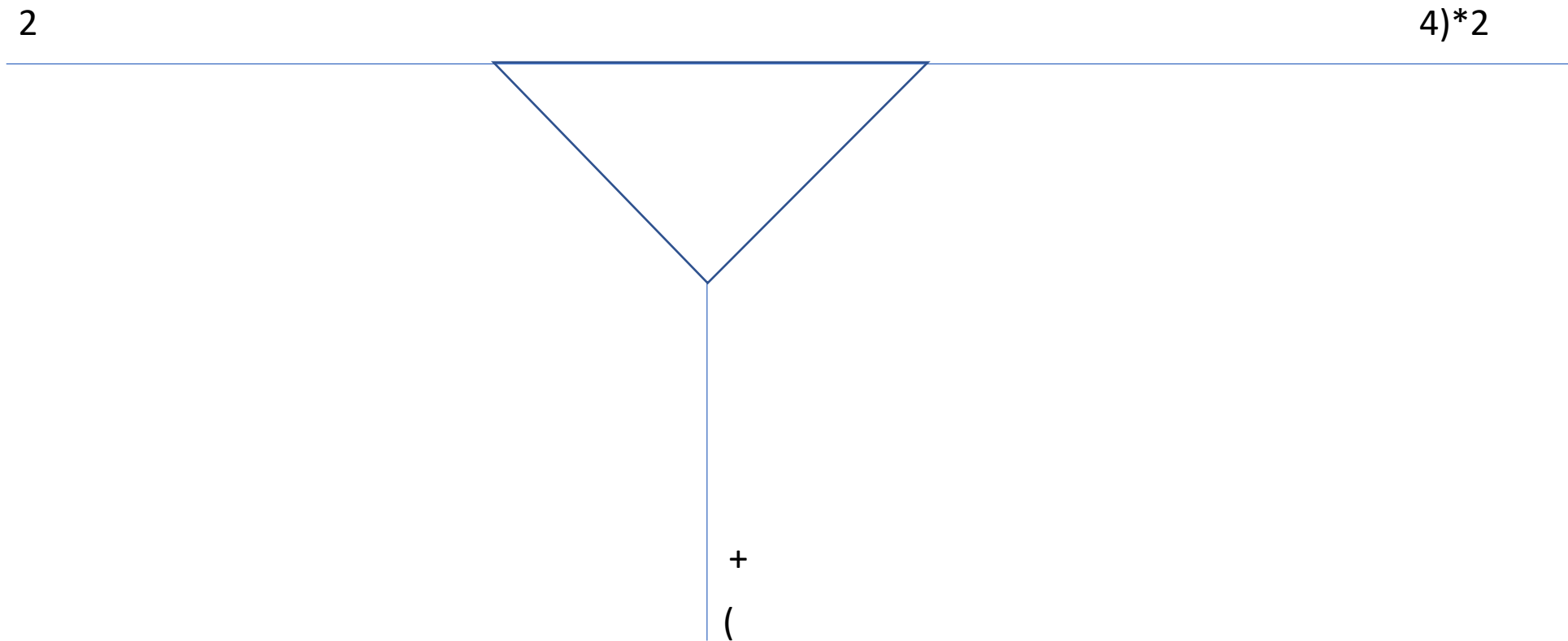
Left bracket moves down



2 goes across



+ moves down



4 goes across

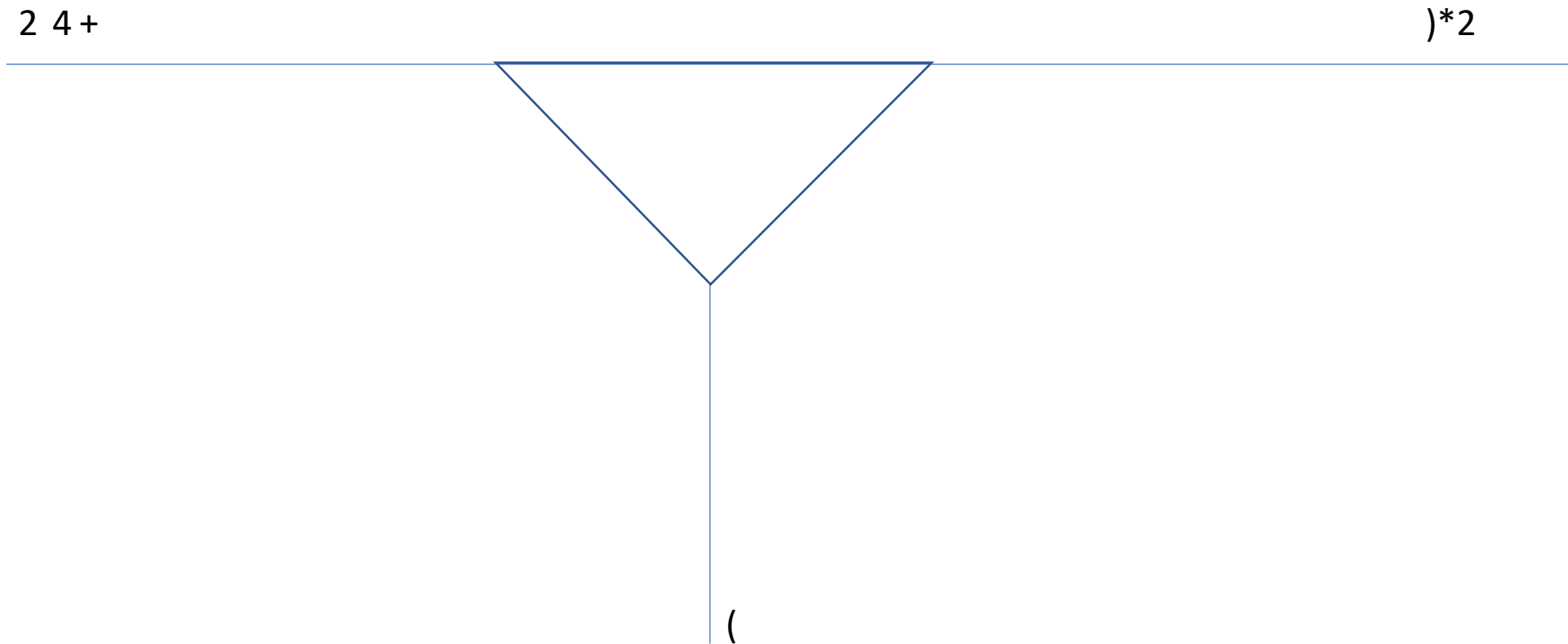
2 4

)*2

+

(

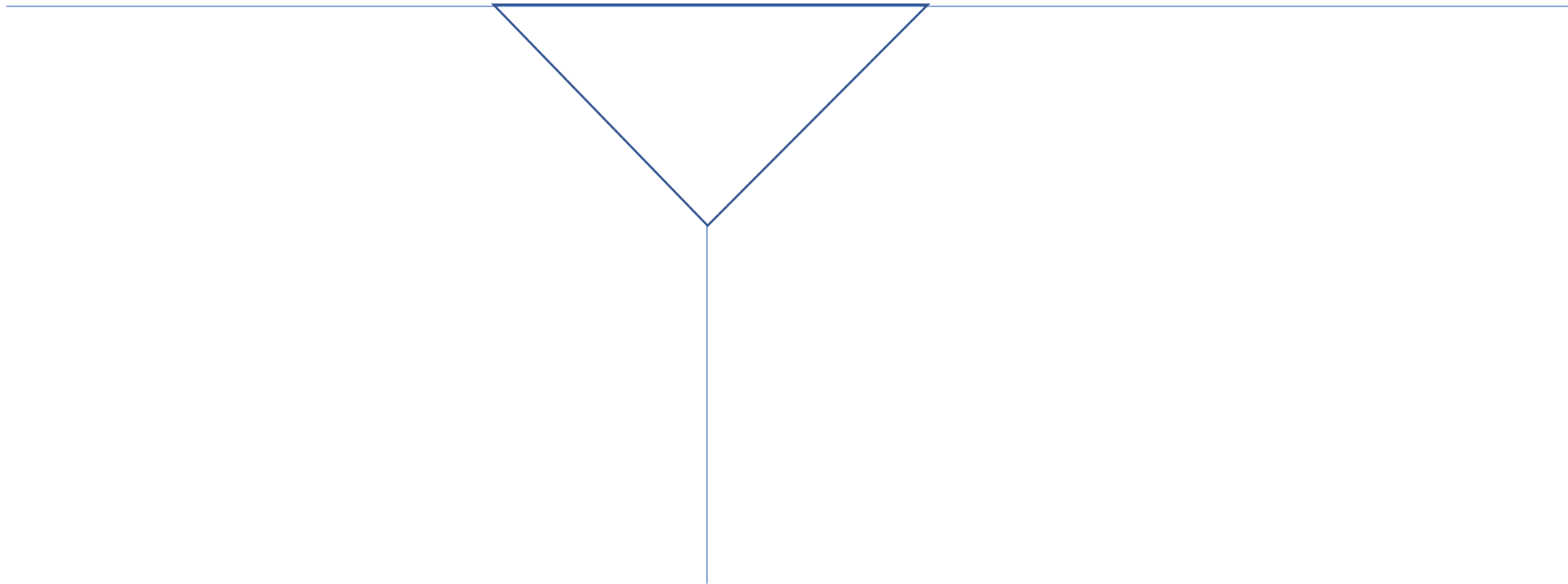
Right bracket – so move + up



Left bracket – remove

2 4 +

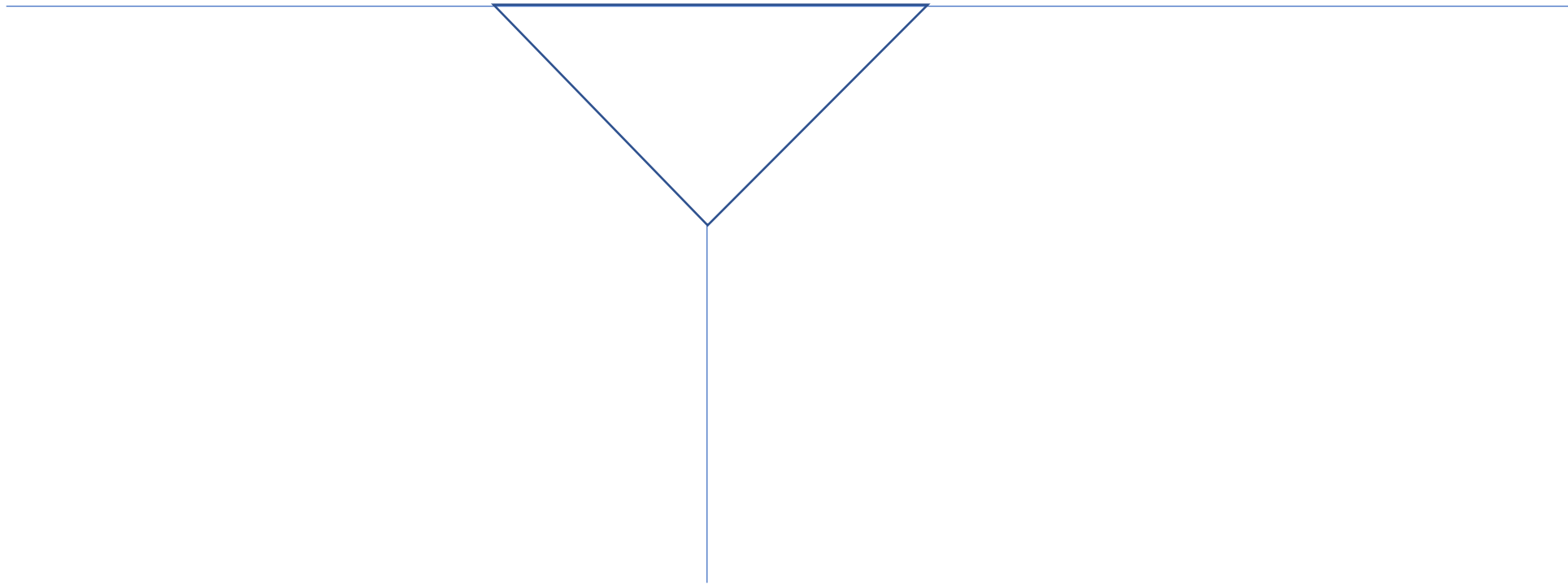
) * 2



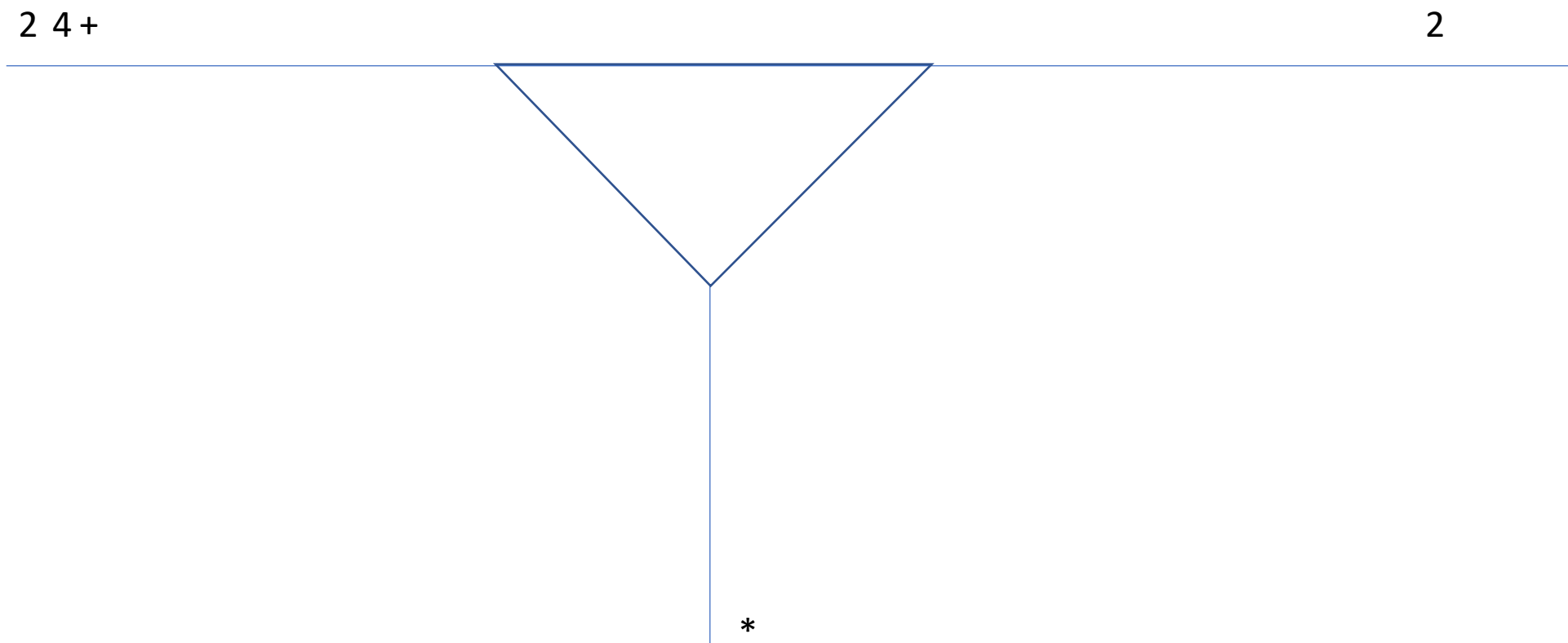
Right bracket – remove

2 4 +

*2

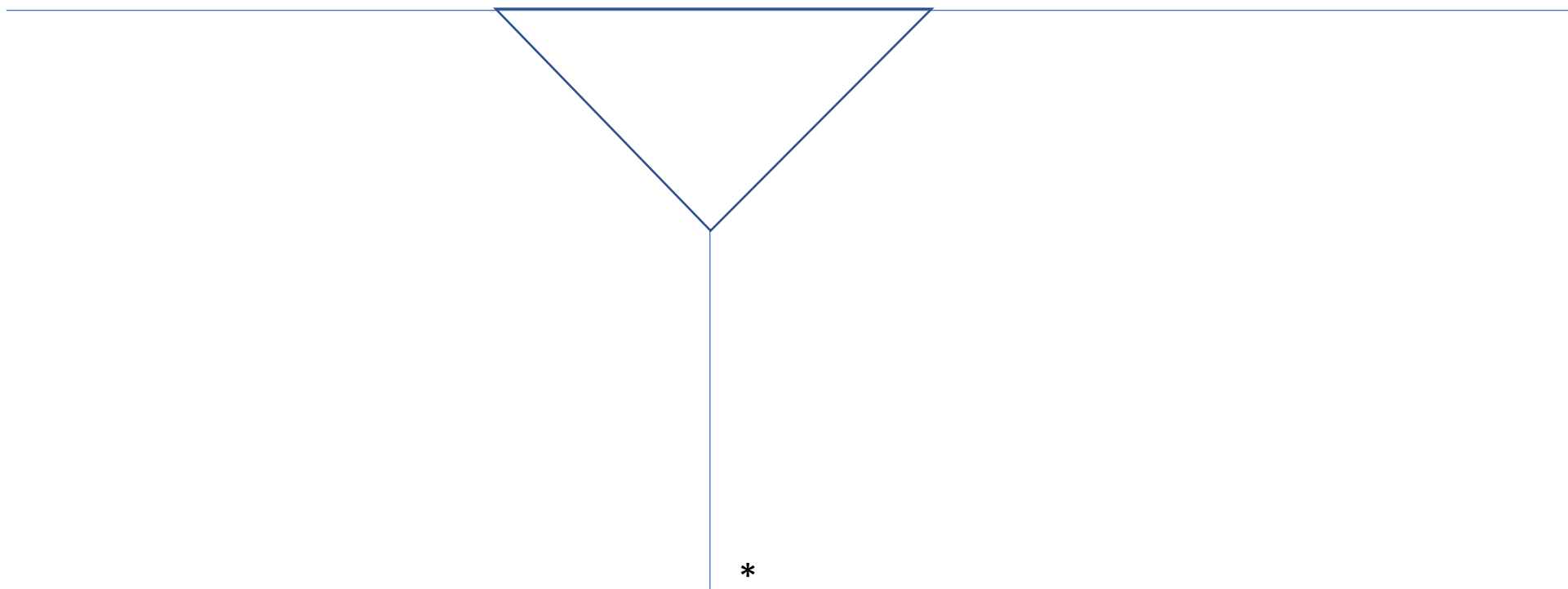


* Moves down



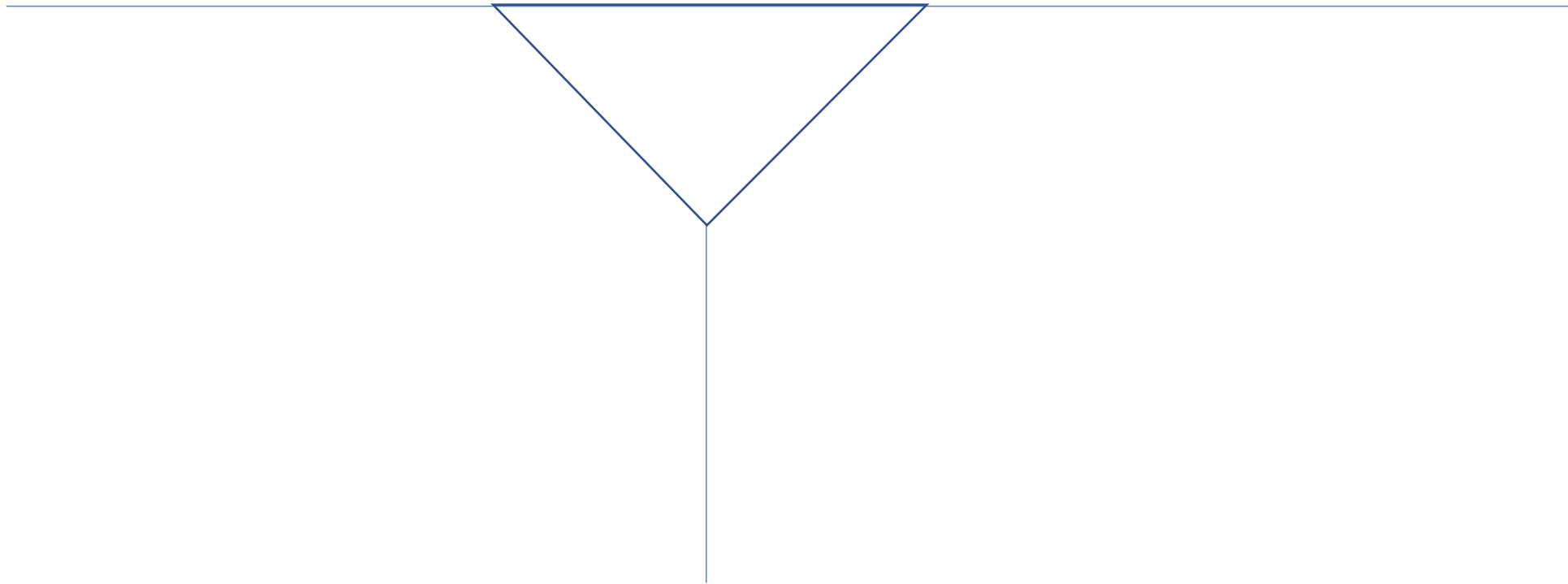
2 goes across

2 4 + 2



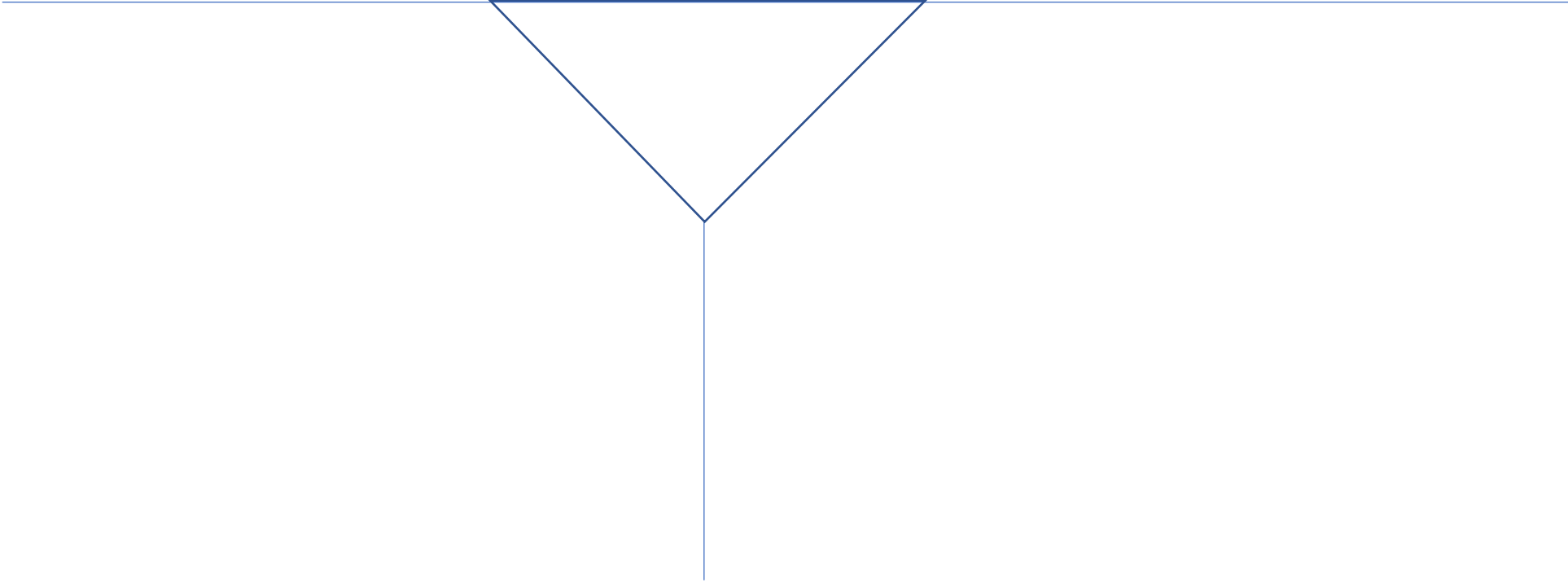
* Comes up

2 4 + 2 *

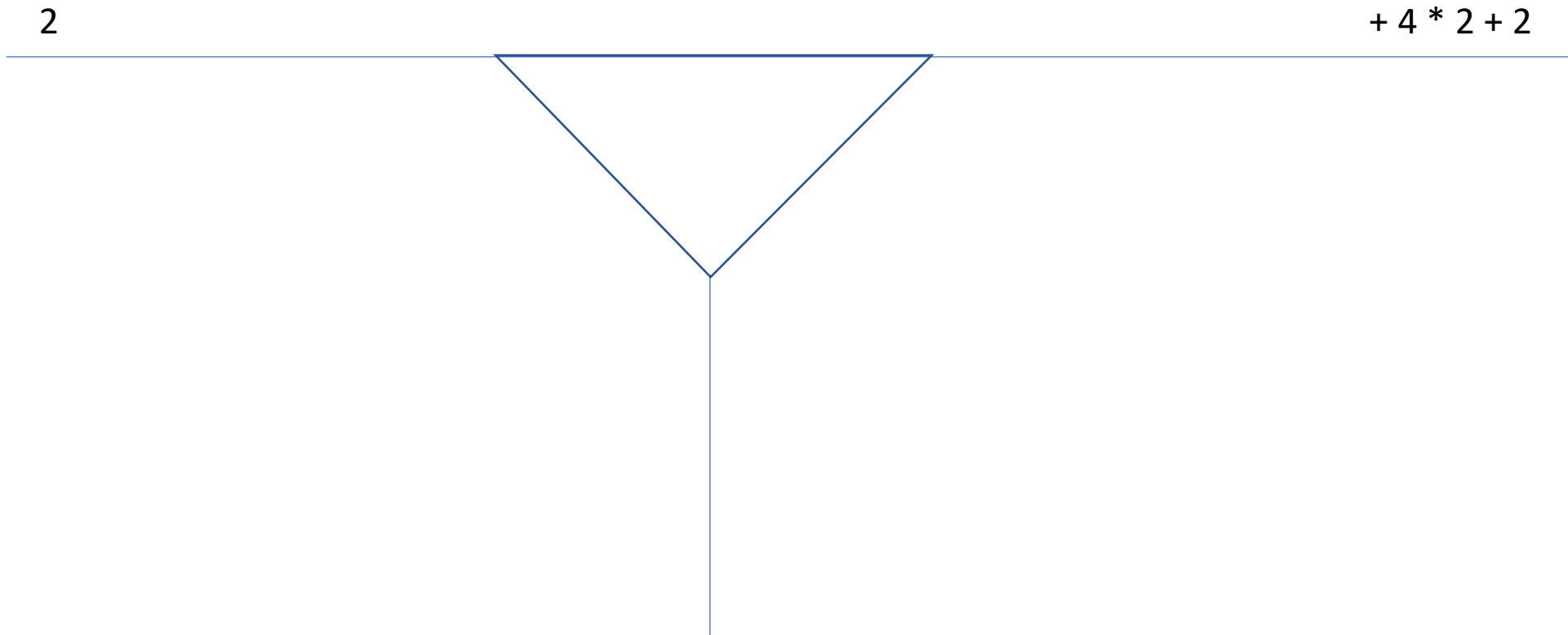


Bonus Round

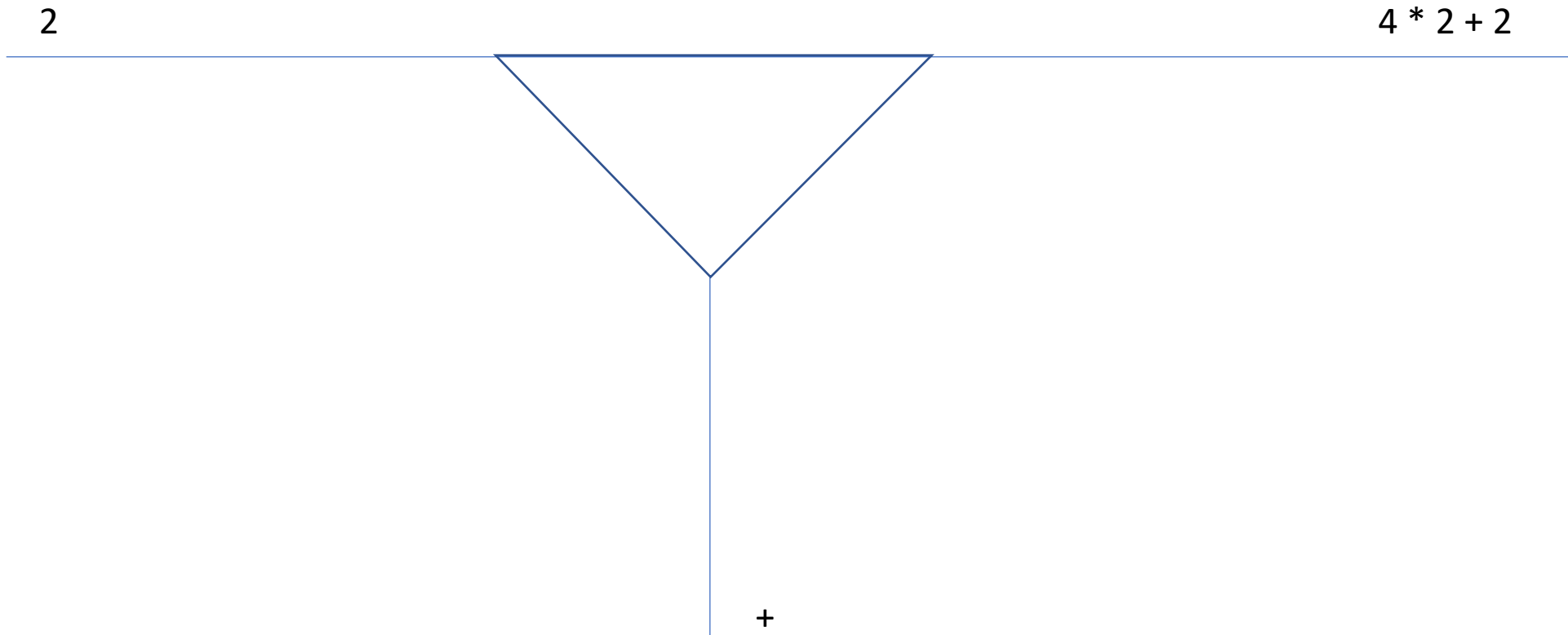
$$2 + 4 * 2 + 2$$

$$2 + 4 * 2 + 2$$
A diagram consisting of a horizontal blue line. In the middle of this line, there is an inverted triangle. From the bottom vertex of this triangle, a vertical blue line extends downwards.

2 goes across



Stack empty, plus moves down



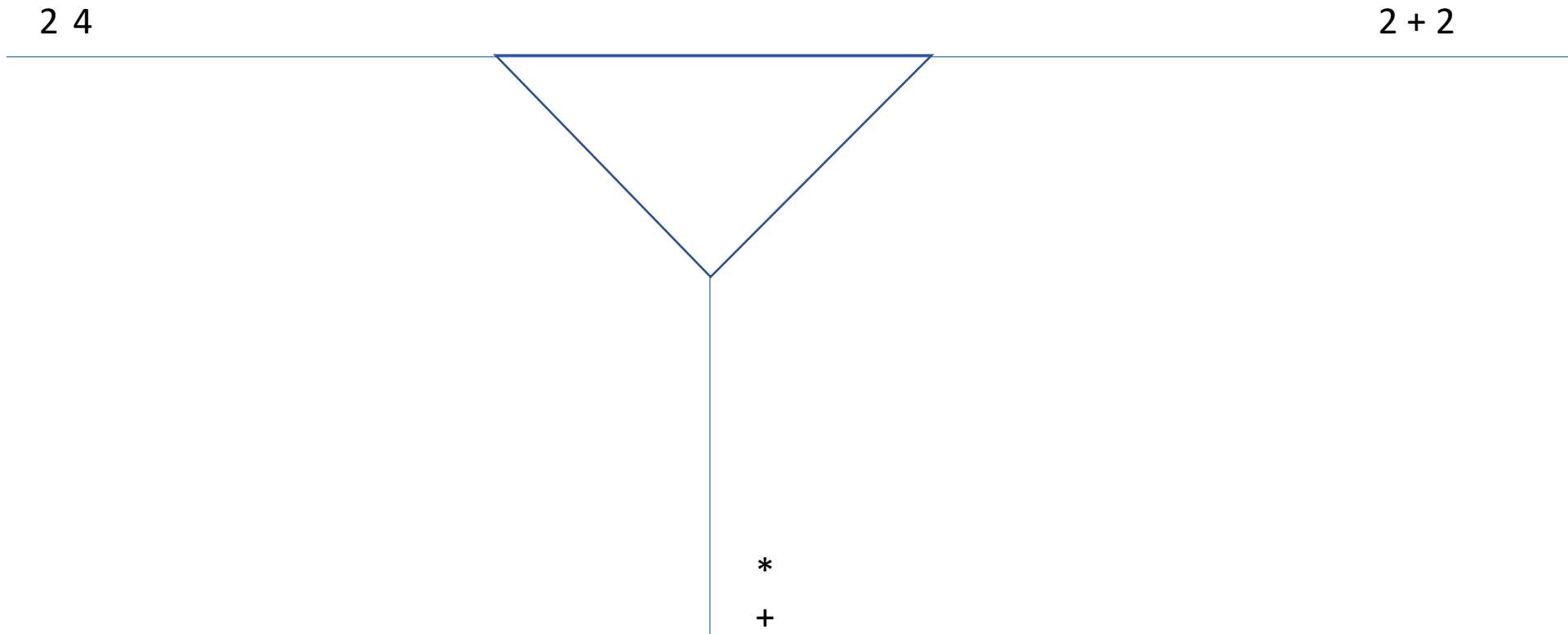
4 goes across

2 4

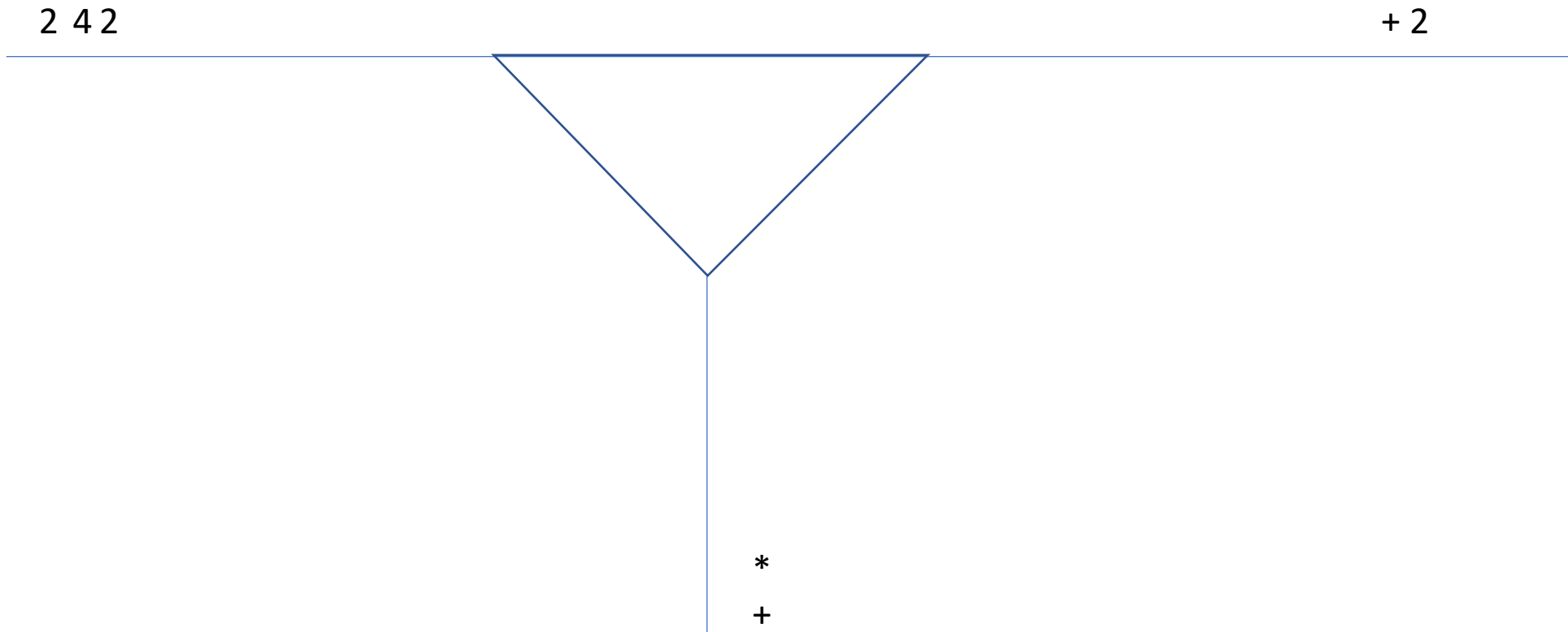
* 2 + 2

+

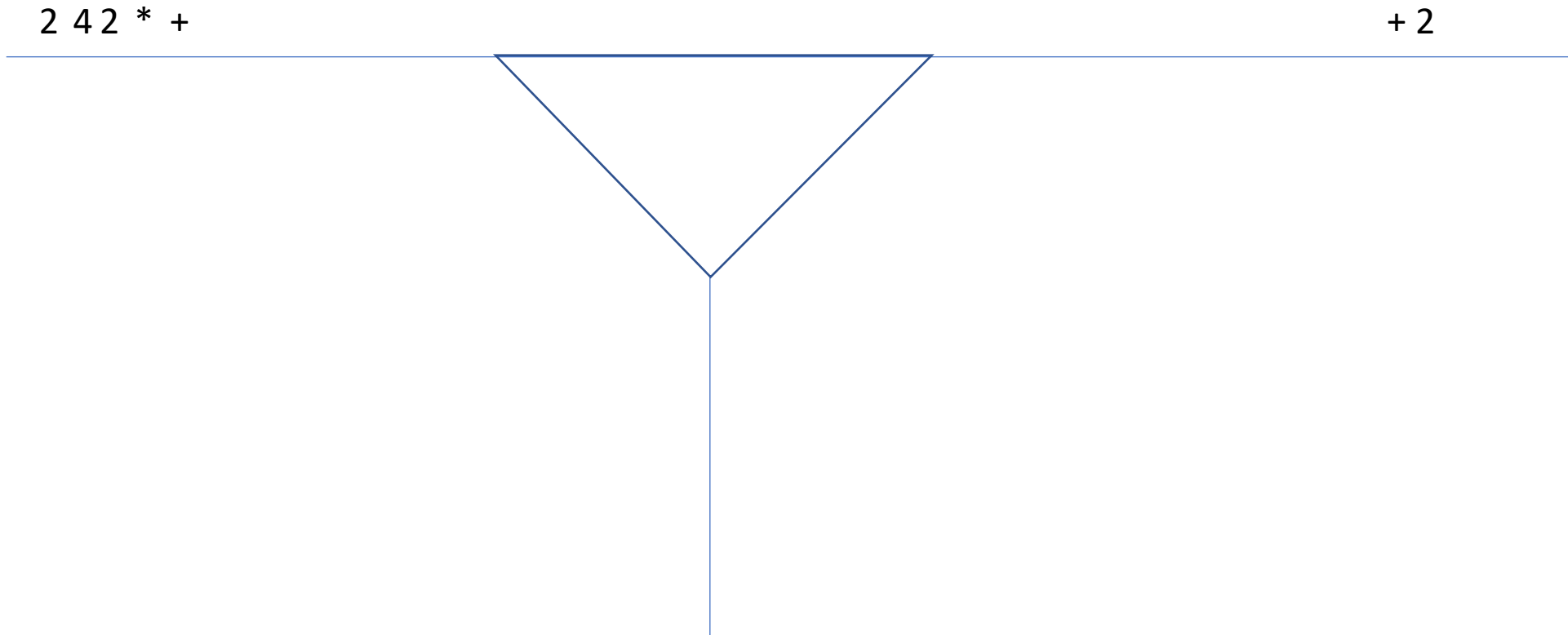
* Higher than +, * moves down



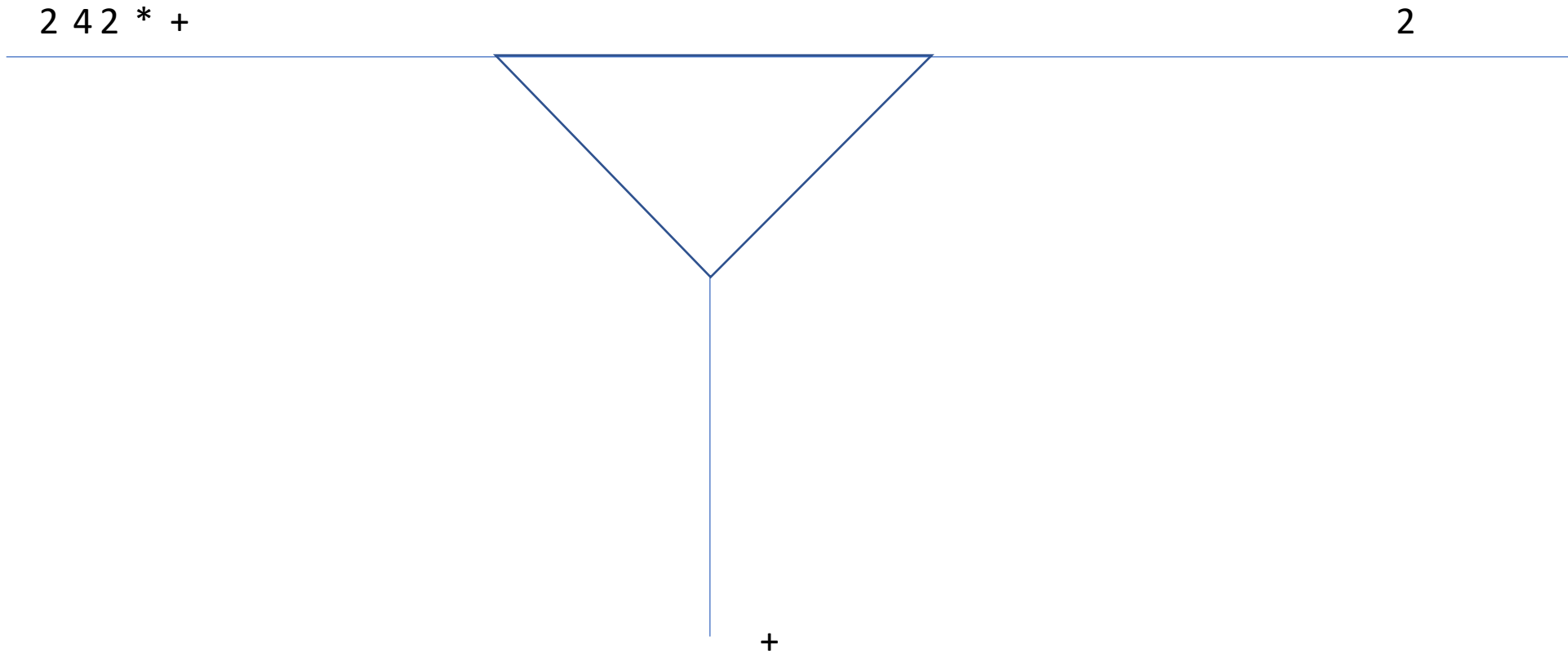
2 goes across



+ lower than *, * then + move across

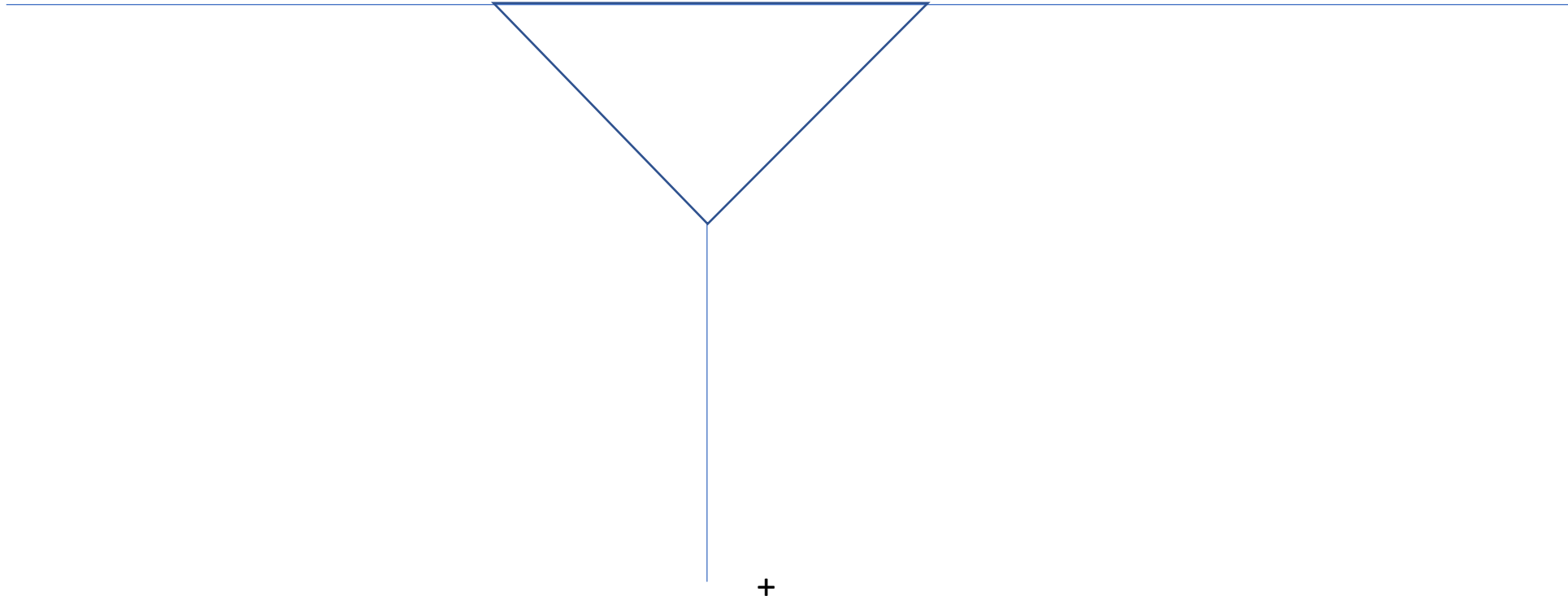


Stack empty, + moves down



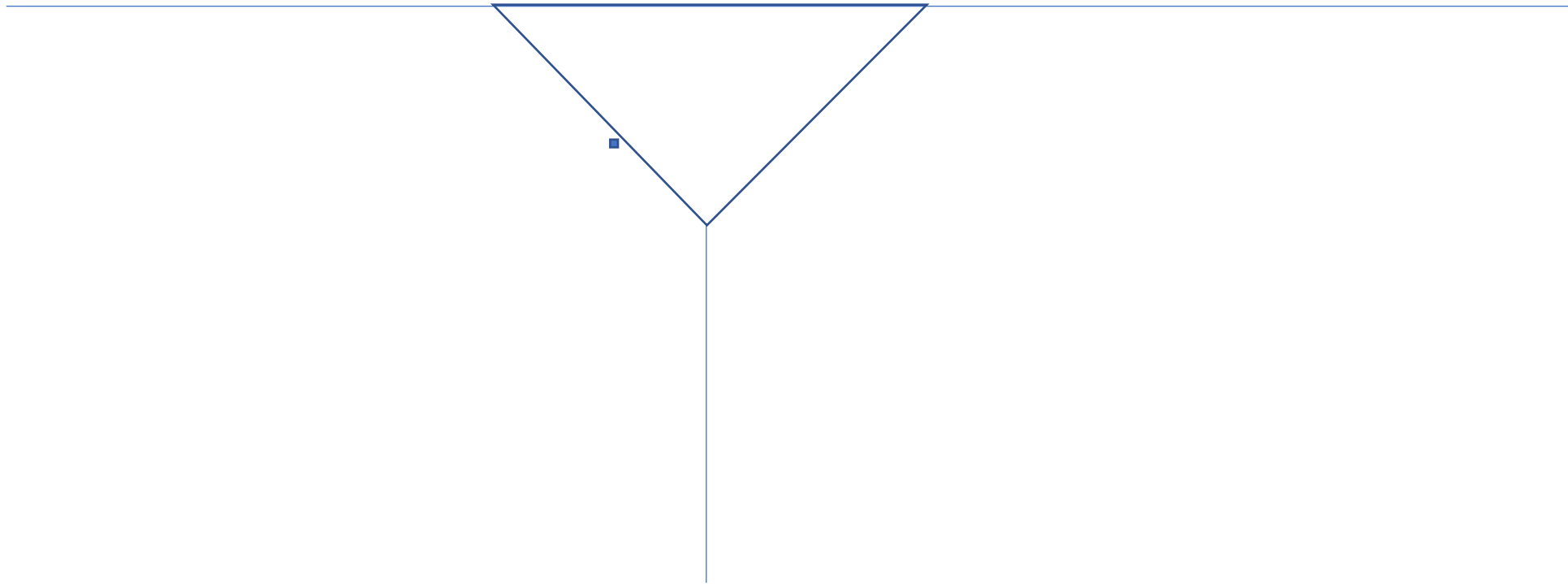
2 moves across

2 4 2 * + 2



+ comes up

2 4 2 * + 2 +



Brackets in middle/end?

- $2+4*(2+2)$ becomes
- $2422+*+$
- Anything in the brackets comes back up first