The absolute value of x, denoted by |x|, is x if $x \ge 0$ and -x otherwise. The floor of x, denoted by $\lfloor x \rfloor$, is the greatest integer less than or equal to x. The ceiling of x, denoted by $\lceil x \rceil$, is the least integer greater than or equal to x

Example 3.0.9. It is the case that $|-3|=3=|3|, \lfloor 2.3 \rfloor = 2, \text{ and } \lceil \pi \rceil = 4.$