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## Exercise

A. First, complete the table below

$$f(x) = \begin{cases} 2 & \text{if } x \leq -2 \\ |x| & \text{if } x > -2 \end{cases}$$

$$g(x) = \begin{cases} -x + 3 & \text{if } x \leq 1 \\ 2x & \text{if } x > 1 \end{cases}$$

| $x$   | $g(x)$ | $f \circ g(x)$ |
|-------|--------|----------------|
| -3    |        |                |
| -2    |        |                |
| -1    |        |                |
| 0     |        |                |
| 1     |        |                |
| 2     |        |                |
| 3     |        |                |
| $\pi$ |        |                |

B. Find the composition  $f \circ g$  ( $f$  circle  $g$ ) of the two functions defined below. Remember that  $f \circ g(x)$  is, by definition  $f(g(x))$ . Your final answer should not have the absolute value symbol in it.