# Exercise 69

**Absolute Value** Evaluate each expression.

**(a)** $\Big||-6|-|-4|\Big|$ **(b)** $\dfrac{-1}{|-1|}$

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**Solution**

The absolute value of a number is defined by

$$|x| = \begin{cases} x & \text{if } x > 0 \\ -x & \text{if } x < 0 \end{cases}.$$

Use this fact to evaluate the first expression.

$$\begin{aligned} \Big||-6|-|-4|\Big| &= \Big|(6)-(4)\Big| \\ &= |2| \\ &= 2 \end{aligned}$$

Evaluate the second expression.

$$\begin{aligned} \frac{-1}{|-1|} &= \frac{-1}{(1)} \\ &= -1 \end{aligned}$$