

**Exercise 71****Absolute Value** Evaluate each expression.

$$(a) \quad |(-2) \cdot 6| \qquad (b) \quad \left| \left( -\frac{1}{3} \right) (-15) \right|$$

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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.

$$\begin{aligned} |(-2) \cdot 6| &= |-12| \\ &= 12 \end{aligned}$$

Evaluate the second expression.

$$\begin{aligned} \left| \left( -\frac{1}{3} \right) (-15) \right| &= |5| \\ &= 5 \end{aligned}$$