Exercise 80

Simplifying Absolute Value Express the quantity without using absolute value.

$$|1 - \sqrt{2}|$$

Solution

Since $\sqrt{2}$ is about 1.414, $1 - \sqrt{2}$ is less than zero. The absolute value sign, then, can be removed only if a minus sign is placed in front of the quantity.

$$|1 - \sqrt{2}| = -(1 - \sqrt{2}) = \sqrt{2} - 1$$