

Exercise 65

Determine whether the simplified expression is rational or irrational: $\sqrt{-18 - 4(5)(-1)}$.

Solution

Use the order of operations to simplify the expression under the square root.

$$\sqrt{-18 - 4(5)(-1)}$$

$$\sqrt{-18 - 4(-5)}$$

$$\sqrt{-18 + 20}$$

$$\sqrt{2}$$

This is an irrational number.