Exercise 66

Determine whether the simplified expression is rational or irrational: $\sqrt{-16 + 4(5) + 5}$.

Solution

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

$$\sqrt{-16 + 4(5) + 5}$$

$$\sqrt{-16 + 20 + 5}$$

$$\sqrt{4 + 5}$$

$$\sqrt{9}$$

$$3$$

This is a rational number.