Exercise 50

The area A of a square depends on the length of the side s.

a. Write a function $A(s)$ for the area of a square.

b. Find and interpret $A(6.5)$.

c. Find the exact and the two-significant-digit approximation to the length of the sides of a square with area 56 square units.

Solution

Part a.

The area of a square is obtained by multiplying the side length by itself.

$$A(s) = s \times s = s^2$$

Part b.

$A(6.5)$ is the area of the square if the side length is 6.5 units.

Part c.

The area is known to be 56 square units. Plug this into the formula for area.

$$A(s) = 56 = s^2$$

Solve for s by taking the square root of both sides.

$$s = \sqrt{56} \approx 7.5$$