Exercise 38

Given the function $f(x) = \sqrt{x+2}$:

   (a) Evaluate $f(7)$.

   (b) Solve $f(x) = 4$.

Solution

Evaluate the given function at $x = 5$.

$$f(7) = \sqrt{(7)+2} = \sqrt{9} = 3 \quad \rightarrow \quad \boxed{f(7) = 3}$$

Plug in 4 for $f(x)$ and solve the equation for x.

$$4 = \sqrt{x+2}$$

Square both sides.

$$16 = x + 2$$

Subtract 2 from both sides.

$$\boxed{x = 14}$$