1 Functions and Limits

1.1 Exercise Solutions

1. If $f(x) = x + \sqrt{2 - x}$ and $g(u) = u + \sqrt{2 - u}$, then it is true that $f = g$. The exact symbols used to represent a function algebraically does not matter.

2. If

$$f(x) = \frac{x^2 - x}{x - 1} \quad \text{and} \quad g(x) = x$$

then it is true that $f = g$, because by simplifying f

$$f(x) = \frac{x^2 - x}{x - 1} = \frac{x(x - 1)}{x - 1} = x$$

it is seen that f is algebraically equivalent to g.