

EXERCISES

1. Let $f: \mathbb{R} \rightarrow \mathbb{R}$ be a function. Define $g: \mathbb{R} \rightarrow \mathbb{R}$ by $g(x) = f(x) + 1$. Show that f is continuous at a if and only if g is continuous at a .

2. Let $f: \mathbb{R} \rightarrow \mathbb{R}$ be a function. Define $g: \mathbb{R} \rightarrow \mathbb{R}$ by $g(x) = f(x) - 1$. Show that f is continuous at a if and only if g is continuous at a .

3. Let $f: \mathbb{R} \rightarrow \mathbb{R}$ be a function. Define $g: \mathbb{R} \rightarrow \mathbb{R}$ by $g(x) = f(x) + 2$. Show that f is continuous at a if and only if g is continuous at a .

4. Let $f: \mathbb{R} \rightarrow \mathbb{R}$ be a function. Define $g: \mathbb{R} \rightarrow \mathbb{R}$ by $g(x) = f(x) - 2$. Show that f is continuous at a if and only if g is continuous at a .

5. Let $f: \mathbb{R} \rightarrow \mathbb{R}$ be a function. Define $g: \mathbb{R} \rightarrow \mathbb{R}$ by $g(x) = f(x) + 3$. Show that f is continuous at a if and only if g is continuous at a .

6. Let $f: \mathbb{R} \rightarrow \mathbb{R}$ be a function. Define $g: \mathbb{R} \rightarrow \mathbb{R}$ by $g(x) = f(x) - 3$. Show that f is continuous at a if and only if g is continuous at a .

7. Let $f: \mathbb{R} \rightarrow \mathbb{R}$ be a function. Define $g: \mathbb{R} \rightarrow \mathbb{R}$ by $g(x) = f(x) + 4$. Show that f is continuous at a if and only if g is continuous at a .

8. Let $f: \mathbb{R} \rightarrow \mathbb{R}$ be a function. Define $g: \mathbb{R} \rightarrow \mathbb{R}$ by $g(x) = f(x) - 4$. Show that f is continuous at a if and only if g is continuous at a .

9. Let $f: \mathbb{R} \rightarrow \mathbb{R}$ be a function. Define $g: \mathbb{R} \rightarrow \mathbb{R}$ by $g(x) = f(x) + 5$. Show that f is continuous at a if and only if g is continuous at a .

10. Let $f: \mathbb{R} \rightarrow \mathbb{R}$ be a function. Define $g: \mathbb{R} \rightarrow \mathbb{R}$ by $g(x) = f(x) - 5$. Show that f is continuous at a if and only if g is continuous at a .