

Problem 1

Let $f(x) = x^2 + 2x + 1$ and $g(x) = x^2 - 2x + 1$.

(a) Find $(f+g)(x)$ and $(f-g)(x)$.

(b) Find the domain and range of $f(x)$ and $g(x)$.

Problem 2

Let $f(x) = x^2 + 2x + 1$ and $g(x) = x^2 - 2x + 1$.

(a) Find $(f+g)(x)$ and $(f-g)(x)$.

(b) Find the domain and range of $f(x)$ and $g(x)$.

(c) Find the domain and range of $(f+g)(x)$ and $(f-g)(x)$.

(d) Find the domain and range of $(f+g)(x) + (f-g)(x)$.

(e) Find the domain and range of $(f+g)(x) - (f-g)(x)$.

(f) Find the domain and range of $(f+g)(x) \cdot (f-g)(x)$.

(g) Find the domain and range of $(f+g)(x) / (f-g)(x)$.

Problem 3

Let $f(x) = x^2 + 2x + 1$ and $g(x) = x^2 - 2x + 1$.

(a) Find $(f+g)(x)$ and $(f-g)(x)$.

(b) Find the domain and range of $f(x)$ and $g(x)$.

Problem 4

Let $f(x) = x^2 + 2x + 1$ and $g(x) = x^2 - 2x + 1$.

(a) Find $(f+g)(x)$ and $(f-g)(x)$.

(b) Find the domain and range of $f(x)$ and $g(x)$.

(c) Find the domain and range of $(f+g)(x)$ and $(f-g)(x)$.

(d) Find the domain and range of $(f+g)(x) + (f-g)(x)$.

(e) Find the domain and range of $(f+g)(x) - (f-g)(x)$.

(f) Find the domain and range of $(f+g)(x) \cdot (f-g)(x)$.

(g) Find the domain and range of $(f+g)(x) / (f-g)(x)$.