



# Essential Functions – Summer 2025

- d.  $k(x) = \frac{x+1}{x^2+1}$

4. Rewrite the expressions as sums/differences of constants and power functions.

a.  $F(x) = \frac{x^2\sqrt{x}+2x}{x}$

b.  $g(x) = \frac{\sqrt[3]{x} - 5 + x^2}{7x^3}$

5. Let  $g(x) = \frac{x+1}{3x+1}$  and  $h(x) = \frac{x+1}{x^2-1}$ . Find each of the following. Simplify your answers.

a.  $h(-5) =$

b.  $g(x+h) =$

c.  $(g \circ h)(x) =$