

For each of the following, find $(f + g)(x)$, $(f - g)(x)$, $(fg)(x)$, and $\left(\frac{f}{g}\right)(x)$

1. $f(x) = x + 3$
 $g(x) = x^2 - 5$

2. $f(x) = x^2 + 2x + 1$
 $g(x) = \frac{1}{x}$

3. $f(x) = \frac{3x+2}{x-5}$
 $g(x) = \sqrt{x-5}$

4. $f(x) = \frac{2x-5}{3x+7}$
 $g(x) = \frac{5x-4}{2x-7}$