

For the given functions; find:

a) Find $(f \circ g)(x)$ and the **domain** of $f \circ g$

b) Find $(g \circ f)(x)$ and the **domain** of $g \circ f$

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

2. $f(x) = 2x - 3$ and $g(x) = \sqrt{x}$

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

4. $f(x) = x^2 - 3x$ and $g(x) = \sqrt{x + 2}$

5. Evaluate the composite function $(f \circ g)(3)$, where $f(x) = 2x - 3$ and $g(x) = x^2 - 5x$