1. Compute $\sin^2(30^\circ) + \cos^2(30^\circ)$. Recall that $\sin^2(x) = (\sin(x))^2$.

2. If $f(x) = 5x - 6$, compute $f^{-1}(x)$ (the inverse function).

3. Consider $g(x) = \frac{x^2 + 14x + 1}{x^2 - 4}$. Find and describe all vertical and horizontal asymptotes.