1. Tell whether this statement is *always*, *sometimes*, or *never* true: \( f(g(x)) = g(f(x)) \). Explain your answer.

2. If \( f(x) = x - 3 \) and \( g(x) = x^2 + 4x - 1 \), write the function rule for \( f(g(x)) \) and for \( g(f(x)) \). Graph both using a graphing calculator. Describe two ways that the graphs are alike and two ways they are different.
[1] Sometimes; students should give one example for which it is true and one for which it is not true.

Answer will vary. Sample: Both graphs are parabolas and have a $y$-intercept of $-4$. $f(g(x))$ has a minimum at $(-2, -8)$ and $g(f(x))$ has a minimum at $(1, -5)$; $f(g(x))$ has an axis of symmetry at $x = -2$; $g(f(x))$ has an axis of symmetry at $x = 1$. 