Let \( f(x) = x^2 - x \). Compute

\[
f(a + h) - f(a)
\]
and write it in factored form.

**Solution:** \( f(a + h) = (a + h)^2 - (a + h) \) while \( f(a) = a^2 - a \). Therefore,

\[
f(a + h) - f(a) = (a + h)^2 - (a + h) - (a^2 - a) = a^2 + 2ah + h^2 - a - h - a^2 + a = 2ah + h^2 - h = h(2a + h - 1).
\]