

HW4

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- $\{(f(x, w, z), f(g(g(w)), z, w)), (f(x), f(y)), (g(x), z)\}$
- Orient: $(g(x), z)$
 $\{(f(x, w, z), f(g(g(w)), z, w)), (f(x), f(y)), (z, g(x))\}$
- Substitutue (Eliminate): $\{z \mapsto g(x)\}$
 $\{(f(x, w, g(x)), f(g(g(w)), g(x), w)), (f(x), f(y)), (g(x), g(x))\}$
- Delete: $(g(x), g(x))$
 $\{(f(x, w, g(x)), f(g(g(w)), g(x), w)), (f(x), f(y))\}$
- Decompose: $(f(x), f(y))$
 $\{(f(x, w, g(x)), f(g(g(w)), g(x), w)), (x, y)\}$
- Substitute: $\{x \mapsto y\}\{(f(y, w, g(y)), f(g(g(w)), g(y), w)), (y, y)\}$
- Delete: (y, y)
 $\{(f(y, w, g(y)), f(g(g(w)), g(y), w))\}$
- Decompose: $(f(y, w, g(y)), f(g(g(w)), g(y), w))$
 $\{(y, g(g(w))), (w, g(y)), (g(y), w)\} \rightarrow \{(y, g(g(w))), (w, g(y))\}$
- Substitutue (Eliminate): $\{w \mapsto g(y)\}$
 $\{(y, g(g(g(y))))), (g(y), g(y))\}$
- Delete: $(g(y), g(y))$
 $\{(y, g(g(g(y))))\}$
- Fails occurs check.