Graphical Procedure
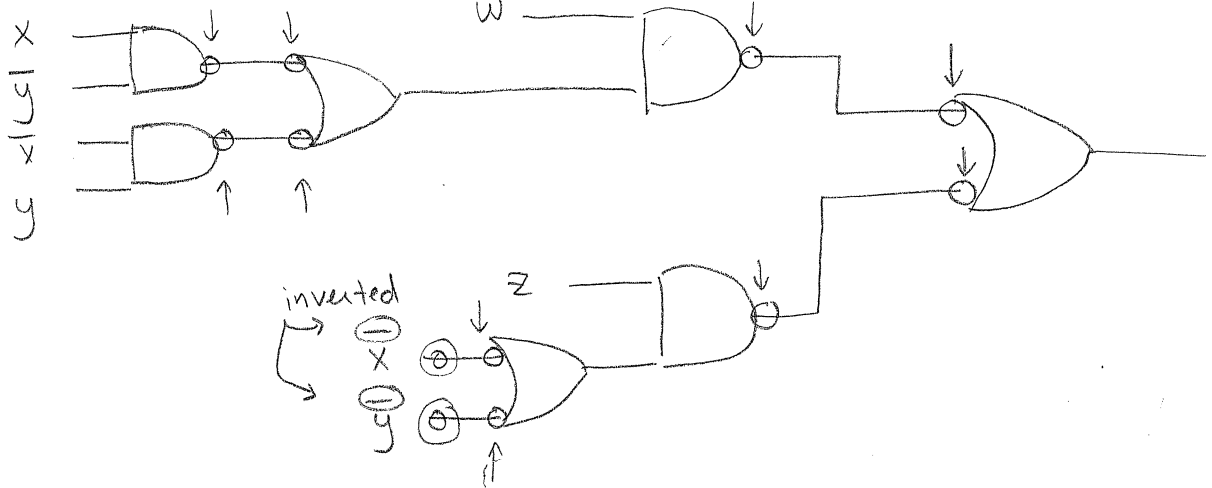
Convert the following Boolean expressions into logic diagrams and using the graphical procedures, convert the logic diagram into a logic diagram consisting of only nand-gates.

1. $f(w, x, y, z) = \overline{w}(x\overline{y} + \overline{x}y) + z(x + y)$

2. $f(w, x, y, z) = (\overline{x} + y\overline{z})[w + (y + z)(\overline{y} + \overline{z})]$