1. In your own words, what is a dominated option? State part I of the canonical form theorem and give an example.
   Give an example.

2. In your own words, what is a reversible option? State part II of the canonical form theorem and give an example.
   Give an example.

3. Explain each step: show all work. (hint: canonical form, dominated options)
   \[
   \begin{align*}
   \{1,2 \mid 3\} &= \{2 \mid 3\} = 5/2 \\
   \{* , \, 1 \ast | -5\} &= \{1 \ast | -5\} \\
   \{* , \uparrow, \, 1 \mid -1\} &= \{1 | -1\} = \pm 1 \\
   \{-1 | 1\} &= 0 \\
   \{0, \ast | 0, \downarrow\} &= \{0, \ast | \downarrow\}
   \end{align*}
   \]

4. Explain each step: show all work. (hint: canonical form, reversible options)
   \[
   \begin{align*}
   \{* \mid \uparrow, \ast\} &= 0 \\
   \{0, \ast | \ast\} &= \uparrow \\
   \{\uparrow \mid \downarrow\} &= \ast \\
   \{\downarrow \mid \uparrow\} &= 0 \\
   \uparrow &= \{\uparrow \mid \ast \} \text{ (easy)} \\
   \uparrow \ast &= \{\uparrow, \uparrow \ast | \uparrow, \uparrow\} \text{ (easy)} = \{0 | \uparrow\}
   \end{align*}
   \]

5. Carefully, explain what is wrong with this statement: by part II of the canonical form theorem (reversing reversible options), \(\{0, \ast \mid \ast\} = \{0 \mid \ast\}\) and \(\{0, \ast \mid \downarrow\} = \{0 \mid \downarrow\}\).