

Resolution in Propositional Logic Examples

$$S_0 = \{r \vee p \vee s, s \vee q, \neg p \vee s, \neg s, \neg s \vee p, p \vee \neg r\}$$

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$s_0 = \{r \vee p \vee s, s \vee q, \neg p \vee s, \neg s, \neg s \vee p, p \vee \neg r\}$

$\neg s \vee p$ can be subsumed into $\neg s$

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Resolution between $\neg p \vee s$ and $\neg s$

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Resolution between $\neg p \vee s$ and $\neg s$

$$S_0 = \{r \vee p \vee s, s \vee q, \neg p \vee s, \neg s, \neg s \vee p, p \vee \neg r\}$$

The diagram shows the set S_0 with several formulas highlighted by colored boxes: $s \vee q$ (blue), $\neg p \vee s$ (red), $\neg s$ (blue), and $\neg s \vee p$ (orange). Arrows point from these boxes to the text below: a red arrow from $\neg p \vee s$ to the first line of text, a blue arrow from $\neg s$ to the second line, and an orange arrow from $\neg s \vee p$ to the first line.

$\neg s \vee p$ can be subsumed into $\neg s$
Resolution between $\neg p \vee s$ and $\neg s$

$$s_0 = \{r \vee p \vee s, s \vee q, \neg p \vee s, \neg s, \neg s \vee p, p \vee \neg r\}$$


$\neg s \vee p$ can be subsumed into $\neg s$

Resolution between $\neg p \vee s$ and $\neg s$

Resolution between $s \vee q$ and $\neg s$

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$\neg s \vee p$ can be subsumed into $\neg s$

Resolution between $\neg p \vee s$ and $\neg s$

Resolution between $s \vee q$ and $\neg s$

$$S_0 = \{r \vee p \vee s, s \vee q, \neg p \vee s, \neg s, \neg s \vee p, p \vee \neg r\}$$

The diagram shows the set S_0 with six clauses: $r \vee p \vee s$, $s \vee q$, $\neg p \vee s$, $\neg s$, $\neg s \vee p$, and $p \vee \neg r$. Each clause is enclosed in a colored box: $r \vee p \vee s$ (green), $s \vee q$ (blue), $\neg p \vee s$ (red), $\neg s$ (green), $\neg s \vee p$ (orange), and $p \vee \neg r$ (orange). Arrows point from these boxes to the text below: a red arrow from $\neg p \vee s$ to the first line, a blue arrow from $\neg s$ to the second line, and an orange arrow from $\neg s \vee p$ to the third line.

$\neg s \vee p$ can be subsumed into $\neg s$

Resolution between $\neg p \vee s$ and $\neg s$

Resolution between $s \vee q$ and $\neg s$

$$S_0 = \{r \vee p \vee s, s \vee q, \neg p \vee s, \neg s, \neg s \vee p, p \vee \neg r\}$$

The diagram shows the set S_0 with six clauses: $r \vee p \vee s$, $s \vee q$, $\neg p \vee s$, $\neg s$, $\neg s \vee p$, and $p \vee \neg r$. Each clause is enclosed in a colored box: $r \vee p \vee s$ (green), $s \vee q$ (blue), $\neg p \vee s$ (red), $\neg s$ (green), $\neg s \vee p$ (orange), and $p \vee \neg r$ (orange). Arrows point from these boxes to the text below: a red arrow from $\neg p \vee s$ to the first line, a blue arrow from $\neg s$ to the second line, a green arrow from $\neg s$ to the third line, and an orange arrow from $\neg s \vee p$ to the first line.

$\neg s \vee p$ can be subsumed into $\neg s$

Resolution between $\neg p \vee s$ and $\neg s$

Resolution between $s \vee q$ and $\neg s$

$$S_0 = \{r \vee p \vee s, s \vee q, \neg p \vee s, \neg s, \neg s \vee p, p \vee \neg r\}$$

The diagram shows the set S_0 with each clause enclosed in a colored box: $r \vee p \vee s$ (green), $s \vee q$ (blue), $\neg p \vee s$ (red), $\neg s$ (green), $\neg s \vee p$ (orange), and $p \vee \neg r$ (orange). Arrows point from the central $\neg s$ clause to the other clauses: a red arrow to $\neg p \vee s$, a blue arrow to $s \vee q$, a green arrow to $r \vee p \vee s$, and an orange arrow to $\neg s \vee p$.

$\neg s \vee p$ can be subsumed into $\neg s$

Resolution between $\neg p \vee s$ and $\neg s$

Resolution between $s \vee q$ and $\neg s$

Resolution between $r \vee p \vee s$ and $\neg s$

$$S_0 = \{r \vee p \vee s, s \vee q, \neg p \vee s, \neg s, \neg s \vee p, p \vee \neg r\}$$

$\neg s \vee p$ can be subsumed into $\neg s$

Resolution between $\neg p \vee s$ and $\neg s$

Resolution between $s \vee q$ and $\neg s$

Resolution between $r \vee p \vee s$ and $\neg s$

$$f_{\text{wert},1}(\{\neg s, \neg s \vee p\}, \{\neg s\}) = 0$$

$$s_0 = \{r \vee p \vee s, s \vee q, \neg p \vee s, \neg s, \neg s \vee p, p \vee \neg r\}$$

$\neg s \vee p$ can be subsumed into $\neg s$

Resolution between $\neg p \vee s$ and $\neg s$

Resolution between $s \vee q$ and $\neg s$

Resolution between $r \vee p \vee s$ and $\neg s$

$$f_{\text{wert},1}(\{\neg s, \neg s \vee p\}, \{\neg s\}) = 0$$

$$f_{\text{wert},1}(\{s \vee q, \neg s\}, \{s \vee q, \neg s, q\}) = 1$$

$$s_0 = \{r \vee p \vee s, s \vee q, \neg p \vee s, \neg s, \neg s \vee p, p \vee \neg r\}$$

$\neg s \vee p$ can be subsumed into $\neg s$

Resolution between $\neg p \vee s$ and $\neg s$

Resolution between $s \vee q$ and $\neg s$

Resolution between $r \vee p \vee s$ and $\neg s$

$$f_{\text{wert},1}(\{\neg s, \neg s \vee p\}, \{\neg s\}) = 0$$

$$f_{\text{wert},1}(\{s \vee q, \neg s\}, \{s \vee q, \neg s, q\}) = 1$$

$$f_{\text{wert},1}(\{\neg p \vee s, \neg s\}, \{\neg p \vee s, \neg s, \neg p\}) = 1$$

$$s_0 = \{r \vee p \vee s, s \vee q, \neg p \vee s, \neg s, \neg s \vee p, p \vee \neg r\}$$

$\neg s \vee p$ can be subsumed into $\neg s$

Resolution between $\neg p \vee s$ and $\neg s$

Resolution between $s \vee q$ and $\neg s$

Resolution between $r \vee p \vee s$ and $\neg s$

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$$f_{\text{wert},1}(\{s \vee q, \neg s\}, \{s \vee q, \neg s, q\}) = 1$$

$$f_{\text{wert},1}(\{\neg p \vee s, \neg s\}, \{\neg p \vee s, \neg s, \neg p\}) = 1$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$s_0 = \{r \vee p \vee s, s \vee q, \neg p \vee s, \neg s, \neg s \vee p, p \vee \neg r\}$$

$\neg s \vee p$ can be subsumed into $\neg s$

Resolution between $\neg p \vee s$ and $\neg s$

Resolution between $s \vee q$ and $\neg s$

Resolution between $r \vee p \vee s$ and $\neg s$

$$f_{\text{wert},1}(\{\neg s, \neg s \vee p\}, \{\neg s\}) = 0$$

$$f_{\text{wert},1}(\{s \vee q, \neg s\}, \{s \vee q, \neg s, q\}) = 1$$

$$f_{\text{wert},1}(\{\neg p \vee s, \neg s\}, \{\neg p \vee s, \neg s, \neg p\}) = 1$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$S_0 = \{r \vee p \vee s, s \vee q, \neg p \vee s, \neg s, \neg s \vee p, p \vee \neg r\}$$

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$$s_1 = \{r \vee p \vee s, s \vee q, \neg p \vee s, \neg s, p \vee \neg r\}$$

$$s_1 = \{r \vee p \vee s, s \vee q, \neg p \vee s, \neg s, \neg s \vee p, p \vee \neg r\}$$

Resolution between $\neg p \vee s$ and $\neg s$

Resolution between $s \vee q$ and $\neg s$

Resolution between $r \vee p \vee s$ and $\neg s$

$$f_{\text{wert},1}(\{s \vee q, \neg s\}, \{s \vee q, \neg s, q\}) = 1$$

$$f_{\text{wert},1}(\{\neg p \vee s, \neg s\}, \{\neg p \vee s, \neg s, \neg p\}) = 1$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$s_1 = \{r \vee p \vee s, s \vee q, \neg p \vee s, \neg s, \neg s \vee p, p \vee \neg r\}$$

Resolution between $\neg p \vee s$ and $\neg s$

Resolution between $s \vee q$ and $\neg s$

Resolution between $r \vee p \vee s$ and $\neg s$

$$f_{\text{wert},1}(\{s \vee q, \neg s\}, \{s \vee q, \neg s, q\}) = 1$$

$$f_{\text{wert},1}(\{\neg p \vee s, \neg s\}, \{\neg p \vee s, \neg s, \neg p\}) = 1$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$S_1 = \{r \vee p \vee s, s \vee q, \neg p \vee s, \neg s, \neg s \vee p, p \vee \neg r\}$$

$$S_1 = \{r \vee p \vee s, s \vee q, \neg p \vee s, \neg s, \neg s \vee p, p \vee \neg r\}$$



$$s_1 = \{r \vee p \vee s, s \vee q, \neg p \vee s, \neg s, \neg s \vee p, p \vee \neg r\}$$



$$s_2 = \{r \vee p \vee s, s \vee q, \neg p \vee s, \neg s, p \vee \neg r, q\}$$

$$s_2 = \{r \vee p \vee s, s \vee q, \neg p \vee s, \neg s, p \vee \neg r, q\}$$

Resolution between $\neg p \vee s$ and $\neg s$

Resolution between $r \vee p \vee s$ and $\neg s$

$$f_{\text{wert},1}(\{\neg p \vee s, \neg s\}, \{\neg p \vee s, \neg s, \neg p\}) = 1$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$s_2 = \{r \vee p \vee s, s \vee q, \neg p \vee s, \neg s, p \vee \neg r, \boxed{q}\}$$

Resolution between $\neg p \vee s$ and $\neg s$

Resolution between $r \vee p \vee s$ and $\neg s$

$$f_{\text{wert},1}(\{\neg p \vee s, \neg s\}, \{\neg p \vee s, \neg s, \neg p\}) = 1$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$s_2 = \{r \vee p \vee s, s \vee q, \neg p \vee s, \neg s, p \vee \neg r, q\}$$

Resolution between $\neg p \vee s$ and $\neg s$

Resolution between $r \vee p \vee s$ and $\neg s$

$$f_{\text{wert},1}(\{\neg p \vee s, \neg s\}, \{\neg p \vee s, \neg s, \neg p\}) = 1$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$s_2 = \{r \vee p \vee s, s \vee q, \neg p \vee s, \neg s, p \vee \neg r, q\}$$

Resolution between $\neg p \vee s$ and $\neg s$

Resolution between $r \vee p \vee s$ and $\neg s$

$$f_{\text{wert},1}(\{\neg p \vee s, \neg s\}, \{\neg p \vee s, \neg s, \neg p\}) = 1$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$s_2 = \{r \vee p \vee s, s \vee q, \neg p \vee s, \neg s, p \vee \neg r, q\}$$

Resolution between $\neg p \vee s$ and $\neg s$

Resolution between $r \vee p \vee s$ and $\neg s$
 $s \vee q$ can be subsumed into q

$$f_{\text{wert},1}(\{\neg p \vee s, \neg s\}, \{\neg p \vee s, \neg s, \neg p\}) = 1$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$s_2 = \{r \vee p \vee s, s \vee q, \neg p \vee s, \neg s, p \vee \neg r, q\}$$

Resolution between $\neg p \vee s$ and $\neg s$

Resolution between $r \vee p \vee s$ and $\neg s$
 $s \vee q$ can be subsumed into q

$$f_{\text{wert},1}(\{q, s \vee q\}, \{q\}) = 0$$

$$f_{\text{wert},1}(\{\neg p \vee s, \neg s\}, \{\neg p \vee s, \neg s, \neg p\}) = 1$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$s_2 = \{r \vee p \vee s, s \vee q, \neg p \vee s, \neg s, p \vee \neg r, q\}$$

Resolution between $\neg p \vee s$ and $\neg s$

Resolution between $r \vee p \vee s$ and $\neg s$
 $s \vee q$ can be subsumed into q

$$f_{\text{wert},1}(\{q, s \vee q\}, \{q\}) = 0$$

$$f_{\text{wert},1}(\{\neg p \vee s, \neg s\}, \{\neg p \vee s, \neg s, \neg p\}) = 1$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$S_2 = \{r \vee p \vee s, s \vee q, \neg p \vee s, \neg s, p \vee \neg r, q\}$$

$$S_2 = \{r \vee p \vee s, s \vee q, \neg p \vee s, \neg s, p \vee \neg r, q\}$$



$$S_2 = \{r \vee p \vee s, s \vee q, \neg p \vee s, \neg s, p \vee \neg r, q\}$$



$$S_3 = \{r \vee p \vee s, \neg p \vee s, \neg s, p \vee \neg r, q\}$$

$$S_3 = \{r \vee p \vee s, \neg p \vee s, \neg s, p \vee \neg r, q\}$$

Resolution between $\neg p \vee s$ and $\neg s$

Resolution between $r \vee p \vee s$ and $\neg s$

$$f_{\text{wert},1}(\{\neg p \vee s, \neg s\}, \{\neg p \vee s, \neg s, \neg p\}) = 1$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$S_3 = \{r \vee p \vee s, \neg p \vee s, \neg s, p \vee \neg r, q\}$$

Resolution between $\neg p \vee s$ and $\neg s$

Resolution between $r \vee p \vee s$ and $\neg s$

$$f_{\text{wert},1}(\{\neg p \vee s, \neg s\}, \{\neg p \vee s, \neg s, \neg p\}) = 1$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$S_3 = \{r \vee p \vee s, \neg p \vee s, \neg s, p \vee \neg r, q\}$$

$$S_3 = \{r \vee p \vee s, \neg p \vee s, \neg s, p \vee \neg r, q\}$$



$$S_3 = \{r \vee p \vee s, \neg p \vee s, \neg s, p \vee \neg r, q\}$$



$$S_4 = \{r \vee p \vee s, \neg p \vee s, \neg s, p \vee \neg r, q, \neg p\}$$

$$S_4 = \{r \vee p \vee s, \neg p \vee s, \neg s, p \vee \neg r, q, \neg p\}$$

Resolution between $r \vee p \vee s$ and $\neg s$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$S_4 = \{r \vee p \vee s, \neg p \vee s, \neg s, p \vee \neg r, q, \boxed{\neg p}\}$$

Resolution between $r \vee p \vee s$ and $\neg s$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$S_4 = \{r \vee p \vee s, \neg p \vee s, \neg s, p \vee \neg r, q, \neg p\}$$

Resolution between $r \vee p \vee s$ and $\neg s$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$S_4 = \{r \vee p \vee s, \neg p \vee s, \neg s, p \vee \neg r, q, \neg p\}$$

Resolution between $r \vee p \vee s$ and $\neg s$



$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$S_4 = \{r \vee p \vee s, \neg p \vee s, \neg s, p \vee \neg r, q, \neg p\}$$

Resolution between $r \vee p \vee s$ and $\neg s$

Resolution between $p \vee \neg r$ and $\neg p$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$S_4 = \{r \vee p \vee s, \neg p \vee s, \neg s, p \vee \neg r, q, \neg p\}$$

Resolution between $r \vee p \vee s$ and $\neg s$

Resolution between $p \vee \neg r$ and $\neg p$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$S_4 = \{r \vee p \vee s, \neg p \vee s, \neg s, p \vee \neg r, q, \neg p\}$$

Resolution between $r \vee p \vee s$ and $\neg s$

Resolution between $p \vee \neg r$ and $\neg p$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$S_4 = \{r \vee p \vee s, \neg p \vee s, \neg s, p \vee \neg r, q, \neg p\}$$

Resolution between $r \vee p \vee s$ and $\neg s$

Resolution between $p \vee \neg r$ and $\neg p$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$S_4 = \{r \vee p \vee s, \neg p \vee s, \neg s, p \vee \neg r, q, \neg p\}$$

Resolution between $r \vee p \vee s$ and $\neg s$

Resolution between $p \vee \neg r$ and $\neg p$

Resolution between $r \vee p \vee s$ and $\neg p$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$S_4 = \{r \vee p \vee s, \neg p \vee s, \neg s, p \vee \neg r, q, \neg p\}$$

Resolution between $r \vee p \vee s$ and $\neg s$

Resolution between $p \vee \neg r$ and $\neg p$

Resolution between $r \vee p \vee s$ and $\neg p$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$S_4 = \{r \vee p \vee s, \neg p \vee s, \neg s, p \vee \neg r, q, \neg p\}$$

Resolution between $r \vee p \vee s$ and $\neg s$

Resolution between $p \vee \neg r$ and $\neg p$

Resolution between $r \vee p \vee s$ and $\neg p$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$S_4 = \{r \vee p \vee s, \neg p \vee s, \neg s, p \vee \neg r, q, \neg p\}$$

Resolution between $r \vee p \vee s$ and $\neg s$

Resolution between $p \vee \neg r$ and $\neg p$

Resolution between $r \vee p \vee s$ and $\neg p$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$S_4 = \{r \vee p \vee s, \neg p \vee s, \neg s, p \vee \neg r, q, \neg p\}$$

Resolution between $r \vee p \vee s$ and $\neg s$

Resolution between $p \vee \neg r$ and $\neg p$

Resolution between $r \vee p \vee s$ and $\neg p$

$\neg p \vee s$ can be subsumed into $\neg p$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$S_4 = \{r \vee p \vee s, \neg p \vee s, \neg s, p \vee \neg r, q, \neg p\}$$

Resolution between $r \vee p \vee s$ and $\neg s$

Resolution between $p \vee \neg r$ and $\neg p$

Resolution between $r \vee p \vee s$ and $\neg p$

$\neg p \vee s$ can be subsumed into $\neg p$

$$f_{\text{wert},1}(\{\neg p, \neg p \vee s\}, \{\neg p\}) = 0$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$S_4 = \{r \vee p \vee s, \neg p \vee s, \neg s, p \vee \neg r, q, \neg p\}$$

The diagram shows the set S_4 with several literals boxed in different colors. Arrows point from these boxes to text descriptions of resolution steps:

- A blue arrow points from the box around $p \vee \neg r$ to the text "Resolution between $p \vee \neg r$ and $\neg p$ ".
- A green arrow points from the box around $\neg p$ to the text "Resolution between $r \vee p \vee s$ and $\neg p$ ".
- A red arrow points from the box around $\neg p$ to the text " $\neg p \vee s$ can be subsumed into $\neg p$ ".

Resolution between $r \vee p \vee s$ and $\neg s$

Resolution between $p \vee \neg r$ and $\neg p$

Resolution between $r \vee p \vee s$ and $\neg p$

$\neg p \vee s$ can be subsumed into $\neg p$

$$f_{\text{wert},1}(\{\neg p, \neg p \vee s\}, \{\neg p\}) = 0$$

$$f_{\text{wert},1}(\{p \vee \neg r, \neg p\}, \{p \vee \neg r, \neg p, \neg r\}) = 1$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$S_4 = \{r \vee p \vee s, \neg p \vee s, \neg s, p \vee \neg r, q, \neg p\}$$

Resolution between $r \vee p \vee s$ and $\neg s$

Resolution between $p \vee \neg r$ and $\neg p$

Resolution between $r \vee p \vee s$ and $\neg p$

$\neg p \vee s$ can be subsumed into $\neg p$

$$f_{\text{wert},1}(\{\neg p, \neg p \vee s\}, \{\neg p\}) = 0$$

$$f_{\text{wert},1}(\{p \vee \neg r, \neg p\}, \{p \vee \neg r, \neg p, \neg r\}) = 1$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg p\}, \{r \vee p \vee s, \neg p, r \vee s\}) = 2$$

$$S_4 = \{r \vee p \vee s, \neg p \vee s, \neg s, p \vee \neg r, q, \neg p\}$$

Resolution between $r \vee p \vee s$ and $\neg s$

Resolution between $p \vee \neg r$ and $\neg p$

Resolution between $r \vee p \vee s$ and $\neg p$

$\neg p \vee s$ can be subsumed into $\neg p$

$$f_{\text{wert},1}(\{\neg p, \neg p \vee s\}, \{\neg p\}) = 0$$

$$f_{\text{wert},1}(\{p \vee \neg r, \neg p\}, \{p \vee \neg r, \neg p, \neg r\}) = 1$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg p\}, \{r \vee p \vee s, \neg p, r \vee s\}) = 2$$

$$S_4 = \{r \vee p \vee s, \neg p \vee s, \neg s, p \vee \neg r, q, \neg p\}$$

$$S_4 = \{r \vee p \vee s, \neg p \vee s, \neg s, p \vee \neg r, q, \neg p\}$$



$$S_4 = \{r \vee p \vee s, \neg p \vee s, \neg s, p \vee \neg r, q, \neg p\}$$



$$S_5 = \{r \vee p \vee s, \neg s, p \vee \neg r, q, \neg p\}$$

$$S_5 = \{r \vee p \vee s, \neg s, p \vee \neg r, q, \neg p\}$$

Resolution between $r \vee p \vee s$ and $\neg s$

Resolution between $p \vee \neg r$ and $\neg p$

Resolution between $r \vee p \vee s$ and $\neg p$

$$f_{\text{wert},1}(\{p \vee \neg r, \neg p\}, \{p \vee \neg r, \neg p, \neg r\}) = 1$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg p\}, \{r \vee p \vee s, \neg p, r \vee s\}) = 2$$

$$S_5 = \{r \vee p \vee s, \neg s, p \vee \neg r, q, \neg p\}$$

Resolution between $r \vee p \vee s$ and $\neg s$

Resolution between $p \vee \neg r$ and $\neg p$

Resolution between $r \vee p \vee s$ and $\neg p$

$$f_{\text{wert},1}(\{p \vee \neg r, \neg p\}, \{p \vee \neg r, \neg p, \neg r\}) = 1$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg p\}, \{r \vee p \vee s, \neg p, r \vee s\}) = 2$$

$$S_5 = \{r \vee p \vee s, \neg s, p \vee \neg r, q, \neg p\}$$

$$S_5 = \{r \vee p \vee s, \neg s, p \vee \neg r, q, \neg p\}$$



$$S_5 = \{r \vee p \vee s, \neg s, p \vee \neg r, q, \neg p\}$$



$$S_6 = \{r \vee p \vee s, \neg s, p \vee \neg r, q, \neg p, \neg r\}$$

$$S_6 = \{r \vee p \vee s, \neg s, p \vee \neg r, q, \neg p, \neg r\}$$

Resolution between $r \vee p \vee s$ and $\neg s$

Resolution between $r \vee p \vee s$ and $\neg p$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg p\}, \{r \vee p \vee s, \neg p, r \vee s\}) = 2$$

$$S_6 = \{r \vee p \vee s, \neg s, p \vee \neg r, q, \neg p, \boxed{\neg r}\}$$

Resolution between $r \vee p \vee s$ and $\neg s$

Resolution between $r \vee p \vee s$ and $\neg p$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg p\}, \{r \vee p \vee s, \neg p, r \vee s\}) = 2$$

$$S_6 = \{r \vee p \vee s, \neg s, p \vee \neg r, q, \neg p, \neg r\}$$

Resolution between $r \vee p \vee s$ and $\neg s$

Resolution between $r \vee p \vee s$ and $\neg p$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg p\}, \{r \vee p \vee s, \neg p, r \vee s\}) = 2$$

$$S_6 = \{r \vee p \vee s, \neg s, p \vee \neg r, q, \neg p, \neg r\}$$

Resolution between $r \vee p \vee s$ and $\neg s$

Resolution between $r \vee p \vee s$ and $\neg p$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg p\}, \{r \vee p \vee s, \neg p, r \vee s\}) = 2$$

$$S_6 = \{r \vee p \vee s, \neg s, p \vee \neg r, q, \neg p, \neg r\}$$

Resolution between $r \vee p \vee s$ and $\neg s$

Resolution between $r \vee p \vee s$ and $\neg p$

$p \vee \neg r$ can be subsumed into $\neg r$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg p\}, \{r \vee p \vee s, \neg p, r \vee s\}) = 2$$

$$S_6 = \{r \vee p \vee s, \neg s, p \vee \neg r, q, \neg p, \neg r\}$$

Resolution between $r \vee p \vee s$ and $\neg s$

Resolution between $r \vee p \vee s$ and $\neg p$

$p \vee \neg r$ can be subsumed into $\neg r$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg p\}, \{r \vee p \vee s, \neg p, r \vee s\}) = 2$$

$$S_6 = \{r \vee p \vee s, \neg s, p \vee \neg r, q, \neg p, \neg r\}$$

Resolution between $r \vee p \vee s$ and $\neg s$

Resolution between $r \vee p \vee s$ and $\neg p$

$p \vee \neg r$ can be subsumed into $\neg r$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg p\}, \{r \vee p \vee s, \neg p, r \vee s\}) = 2$$

$$S_6 = \{r \vee p \vee s, \neg s, p \vee \neg r, q, \neg p, \neg r\}$$

Resolution between $r \vee p \vee s$ and $\neg s$

Resolution between $r \vee p \vee s$ and $\neg p$

$p \vee \neg r$ can be subsumed into $\neg r$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg p\}, \{r \vee p \vee s, \neg p, r \vee s\}) = 2$$

$$S_6 = \{r \vee p \vee s, \neg s, p \vee \neg r, q, \neg p, \neg r\}$$

Resolution between $r \vee p \vee s$ and $\neg s$

Resolution between $r \vee p \vee s$ and $\neg p$

$p \vee \neg r$ can be subsumed into $\neg r$

Resolution between $r \vee p \vee s$ and $\neg r$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg p\}, \{r \vee p \vee s, \neg p, r \vee s\}) = 2$$

$$S_6 = \{r \vee p \vee s, \neg s, p \vee \neg r, q, \neg p, \neg r\}$$

Resolution between $r \vee p \vee s$ and $\neg s$

Resolution between $r \vee p \vee s$ and $\neg p$

$p \vee \neg r$ can be subsumed into $\neg r$

Resolution between $r \vee p \vee s$ and $\neg r$

$$f_{\text{wert},1}(\{\neg r, p \vee \neg r\}, \{\neg r\}) = 0$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg p\}, \{r \vee p \vee s, \neg p, r \vee s\}) = 2$$

$$S_6 = \{r \vee p \vee s, \neg s, p \vee \neg r, q, \neg p, \neg r\}$$

Resolution between $r \vee p \vee s$ and $\neg s$

Resolution between $r \vee p \vee s$ and $\neg p$

$p \vee \neg r$ can be subsumed into $\neg r$

Resolution between $r \vee p \vee s$ and $\neg r$

$$f_{\text{wert},1}(\{\neg r, p \vee \neg r\}, \{\neg r\}) = 0$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg p\}, \{r \vee p \vee s, \neg p, r \vee s\}) = 2$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg r\}, \{r \vee p \vee s, \neg r, p \vee s\}) = 2$$

$$S_6 = \{r \vee p \vee s, \neg s, p \vee \neg r, q, \neg p, \neg r\}$$

Resolution between $r \vee p \vee s$ and $\neg s$

Resolution between $r \vee p \vee s$ and $\neg p$

$p \vee \neg r$ can be subsumed into $\neg r$

Resolution between $r \vee p \vee s$ and $\neg r$

$$f_{\text{wert},1}(\{\neg r, p \vee \neg r\}, \{\neg r\}) = 0$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg p\}, \{r \vee p \vee s, \neg p, r \vee s\}) = 2$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg r\}, \{r \vee p \vee s, \neg r, p \vee s\}) = 2$$

$$S_6 = \{r \vee p \vee s, \neg s, p \vee \neg r, q, \neg p, \neg r\}$$

$$S_6 = \{r \vee p \vee s, \neg s, p \vee \neg r, q, \neg p, \neg r\}$$



$$S_6 = \{r \vee p \vee s, \neg s, p \vee \neg r, q, \neg p, \neg r\}$$



$$S_7 = \{r \vee p \vee s, \neg s, q, \neg p, \neg r\}$$

$$s_7 = \{r \vee p \vee s, \neg s, q, \neg p, \neg r\}$$

Resolution between $r \vee p \vee s$ and $\neg s$

Resolution between $r \vee p \vee s$ and $\neg p$

Resolution between $r \vee p \vee s$ and $\neg r$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg p\}, \{r \vee p \vee s, \neg p, r \vee s\}) = 2$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg r\}, \{r \vee p \vee s, \neg r, p \vee s\}) = 2$$

$$s_7 = \{r \vee p \vee s, \neg s, q, \neg p, \neg r\}$$

Resolution between $r \vee p \vee s$ and $\neg s$

Resolution between $r \vee p \vee s$ and $\neg p$

Resolution between $r \vee p \vee s$ and $\neg r$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg s\}, \{r \vee p \vee s, \neg s, r \vee p\}) = 2$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg p\}, \{r \vee p \vee s, \neg p, r \vee s\}) = 2$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg r\}, \{r \vee p \vee s, \neg r, p \vee s\}) = 2$$

$$S_7 = \{r \vee p \vee s, \neg s, q, \neg p, \neg r\}$$

$$S_7 = \{r \vee p \vee s, \neg s, q, \neg p, \neg r\}$$



$$S_7 = \{r \vee p \vee s, \neg s, q, \neg p, \neg r\}$$



$$S_8 = \{r \vee p \vee s, \neg s, q, \neg p, \neg r, r \vee p\}$$

$$S_8 = \{r \vee p \vee s, \neg s, q, \neg p, \neg r, r \vee p\}$$

Resolution between $r \vee p \vee s$ and $\neg p$

Resolution between $r \vee p \vee s$ and $\neg r$

$$S_8 = \{r \vee p \vee s, \neg s, q, \neg p, \neg r, r \vee p\}$$

Resolution between $r \vee p \vee s$ and $\neg p$

Resolution between $r \vee p \vee s$ and $\neg r$

$$S_8 = \{r \vee p \vee s, \neg s, q, \neg p, \neg r, r \vee p\}$$

Resolution between $r \vee p \vee s$ and $\neg p$

Resolution between $r \vee p \vee s$ and $\neg r$

$$S_8 = \{r \vee p \vee s, \neg s, q, \neg p, \neg r, r \vee p\}$$

Resolution between $r \vee p \vee s$ and $\neg p$

Resolution between $r \vee p \vee s$ and $\neg r$



$$S_8 = \{r \vee p \vee s, \neg s, q, \neg p, \neg r, r \vee p\}$$

Resolution between $r \vee p \vee s$ and $\neg p$

Resolution between $r \vee p \vee s$ and $\neg r$

$r \vee p \vee s$ can be subsumed into $r \vee p$

$$S_8 = \{r \vee p \vee s, \neg s, q, \neg p, \neg r, r \vee p\}$$

Resolution between $r \vee p \vee s$ and $\neg p$

Resolution between $r \vee p \vee s$ and $\neg r$

$r \vee p \vee s$ can be subsumed into $r \vee p$

$$S_8 = \{r \vee p \vee s, \neg s, q, \neg p, \neg r, r \vee p\}$$

Resolution between $r \vee p \vee s$ and $\neg p$

Resolution between $r \vee p \vee s$ and $\neg r$

$r \vee p \vee s$ can be subsumed into $r \vee p$

$$S_8 = \{r \vee p \vee s, \neg s, q, \neg p, \neg r, r \vee p\}$$

Resolution between $r \vee p \vee s$ and $\neg p$

Resolution between $r \vee p \vee s$ and $\neg r$

$r \vee p \vee s$ can be subsumed into $r \vee p$


$$S_8 = \{r \vee p \vee s, \neg s, q, \neg p, \neg r, r \vee p\}$$

Resolution between $r \vee p \vee s$ and $\neg p$

Resolution between $r \vee p \vee s$ and $\neg r$

$r \vee p \vee s$ can be subsumed into $r \vee p$

Resolution between $r \vee p$ and $\neg p$


$$S_8 = \{r \vee p \vee s, \neg s, q, \neg p, \neg r, r \vee p\}$$


Resolution between $r \vee p \vee s$ and $\neg p$

Resolution between $r \vee p \vee s$ and $\neg r$

$r \vee p \vee s$ can be subsumed into $r \vee p$

Resolution between $r \vee p$ and $\neg p$

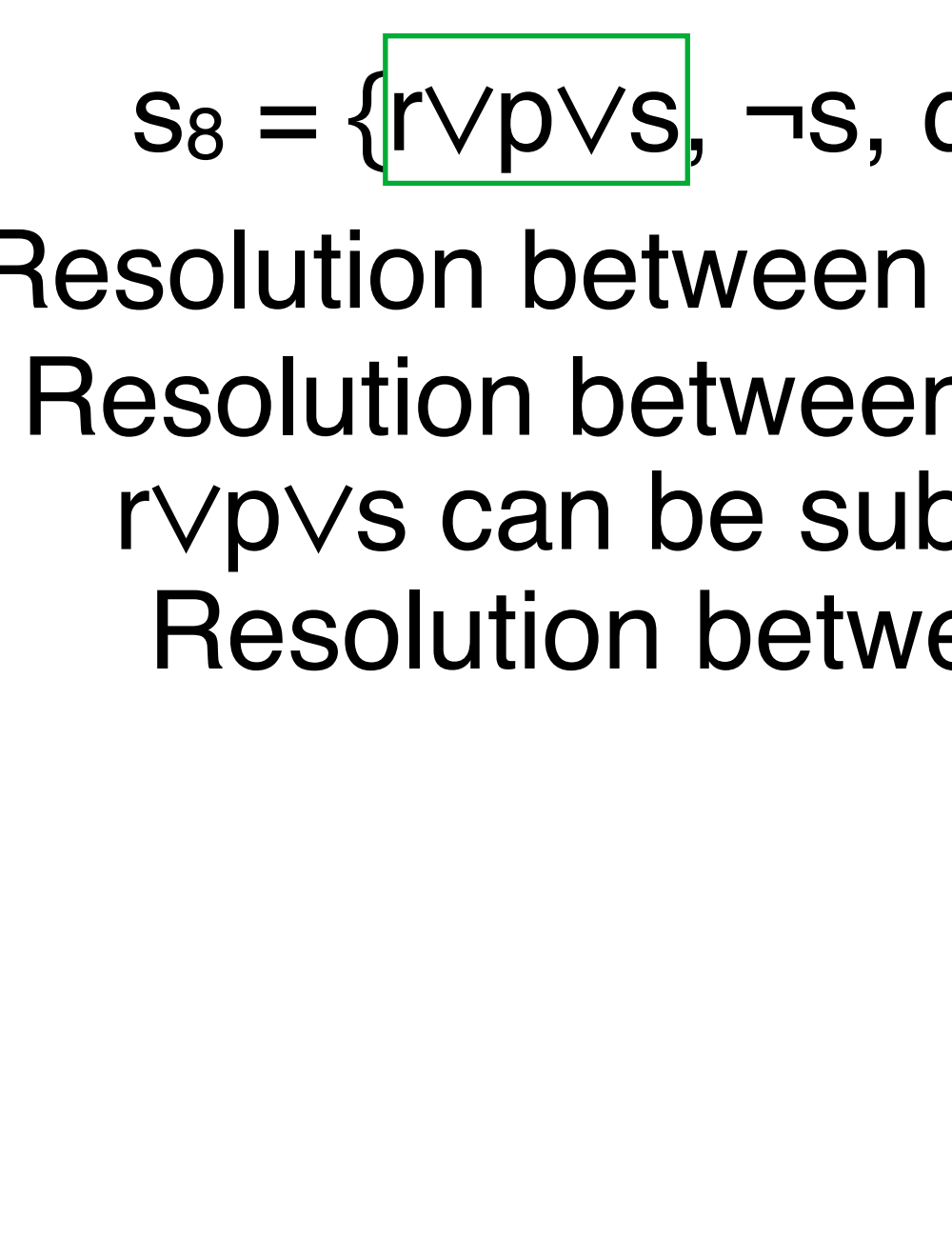
$$S_8 = \{r \vee p \vee s, \neg s, q, \neg p, \neg r, r \vee p\}$$


Resolution between $r \vee p \vee s$ and $\neg p$

Resolution between $r \vee p \vee s$ and $\neg r$

$r \vee p \vee s$ can be subsumed into $r \vee p$

Resolution between $r \vee p$ and $\neg p$

$$S_8 = \{r \vee p \vee s, \neg s, q, \neg p, \neg r, r \vee p\}$$


Resolution between $r \vee p \vee s$ and $\neg p$

Resolution between $r \vee p \vee s$ and $\neg r$

$r \vee p \vee s$ can be subsumed into $r \vee p$

Resolution between $r \vee p$ and $\neg p$

$$S_8 = \{r \vee p \vee s, \neg s, q, \neg p, \neg r, r \vee p\}$$

Resolution between $r \vee p \vee s$ and $\neg p$

Resolution between $r \vee p \vee s$ and $\neg r$

$r \vee p \vee s$ can be subsumed into $r \vee p$

Resolution between $r \vee p$ and $\neg p$

Resolution between $r \vee p$ and $\neg r$

$$S_8 = \{r \vee p \vee s, \neg s, q, \neg p, \neg r, r \vee p\}$$

Resolution between $r \vee p \vee s$ and $\neg p$

Resolution between $r \vee p \vee s$ and $\neg r$

$r \vee p \vee s$ can be subsumed into $r \vee p$

Resolution between $r \vee p$ and $\neg p$

Resolution between $r \vee p$ and $\neg r$

$$f_{\text{wert},1}(\{r \vee p \vee s, r \vee p\}, \{r \vee p\}) = 0$$

$$S_8 = \{r \vee p \vee s, \neg s, q, \neg p, \neg r, r \vee p\}$$

Resolution between $r \vee p \vee s$ and $\neg p$

Resolution between $r \vee p \vee s$ and $\neg r$

$r \vee p \vee s$ can be subsumed into $r \vee p$

Resolution between $r \vee p$ and $\neg p$

Resolution between $r \vee p$ and $\neg r$

$$f_{\text{wert},1}(\{r \vee p \vee s, r \vee p\}, \{r \vee p\}) = 0$$

$$f_{\text{wert},1}(\{r \vee p, \neg p\}, \{r \vee p, \neg p, r\}) = 1$$

$$S_8 = \{r \vee p \vee s, \neg s, q, \neg p, \neg r, r \vee p\}$$

Resolution between $r \vee p \vee s$ and $\neg p$

Resolution between $r \vee p \vee s$ and $\neg r$

$r \vee p \vee s$ can be subsumed into $r \vee p$

Resolution between $r \vee p$ and $\neg p$

Resolution between $r \vee p$ and $\neg r$

$$f_{\text{wert},1}(\{r \vee p \vee s, r \vee p\}, \{r \vee p\}) = 0$$

$$f_{\text{wert},1}(\{r \vee p, \neg p\}, \{r \vee p, \neg p, r\}) = 1$$

$$f_{\text{wert},1}(\{r \vee p, \neg r\}, \{r \vee p, \neg r, p\}) = 1$$

$$S_8 = \{r \vee p \vee s, \neg s, q, \neg p, \neg r, r \vee p\}$$

Resolution between $r \vee p \vee s$ and $\neg p$

Resolution between $r \vee p \vee s$ and $\neg r$

$r \vee p \vee s$ can be subsumed into $r \vee p$

Resolution between $r \vee p$ and $\neg p$

Resolution between $r \vee p$ and $\neg r$

$$f_{\text{wert},1}(\{r \vee p \vee s, r \vee p\}, \{r \vee p\}) = 0$$

$$f_{\text{wert},1}(\{r \vee p, \neg p\}, \{r \vee p, \neg p, r\}) = 1$$

$$f_{\text{wert},1}(\{r \vee p, \neg r\}, \{r \vee p, \neg r, p\}) = 1$$

$$S_8 = \{r \vee p \vee s, \neg s, q, \neg p, \neg r, r \vee p\}$$

$$S_8 = \{r \vee p \vee s, \neg s, q, \neg p, \neg r, r \vee p\}$$



$$S_8 = \{r \vee p \vee s, \neg s, q, \neg p, \neg r, r \vee p\}$$



$$S_9 = \{\neg s, q, \neg p, \neg r, r \vee p\}$$

$$S_8 = \{r \vee p \vee s, \neg s, q, \neg p, \neg r, r \vee p\}$$



$$S_9 = \{\neg s, q, \neg p, \neg r, r \vee p\}$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg p\}, \{r \vee p \vee s, \neg p, r \vee s\}) = 2$$

$$S_8 = \{r \vee p \vee s, \neg s, q, \neg p, \neg r, r \vee p\}$$



$$S_9 = \{\neg s, q, \neg p, \neg r, r \vee p\}$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg p\}, \{r \vee p \vee s, \neg p, r \vee s\}) = 2$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg r\}, \{r \vee p \vee s, \neg r, p \vee s\}) = 2$$

$$S_8 = \{r \vee p \vee s, \neg s, q, \neg p, \neg r, r \vee p\}$$



$$S_9 = \{\neg s, q, \neg p, \neg r, r \vee p\}$$

$$f_{\text{wert},1}(\{r \vee p \vee s, \neg r\}, \{r \vee p \vee s, \neg r, p \vee s\}) = 2$$

$$S_8 = \{r \vee p \vee s, \neg s, q, \neg p, \neg r, r \vee p\}$$



$$S_9 = \{\neg s, q, \neg p, \neg r, r \vee p\}$$

$$S_9 = \{\neg s, q, \neg p, \neg r, r \vee p\}$$

Resolution between $r \vee p$ and $\neg p$

Resolution between $r \vee p$ and $\neg r$

$$f_{\text{wert},1}(\{r \vee p, \neg p\}, \{r \vee p, \neg p, r\}) = 1$$

$$f_{\text{wert},1}(\{r \vee p, \neg r\}, \{r \vee p, \neg r, p\}) = 1$$

$$S_9 = \{\neg s, q, \neg p, \neg r, r \vee p\}$$

Resolution between $r \vee p$ and $\neg p$

Resolution between $r \vee p$ and $\neg r$

$$f_{\text{wert},1}(\{r \vee p, \neg p\}, \{r \vee p, \neg p, r\}) = 1$$

$$f_{\text{wert},1}(\{r \vee p, \neg r\}, \{r \vee p, \neg r, p\}) = 1$$

$$S_9 = \{\neg s, q, \neg p, \neg r, r \vee p\}$$

$$S_9 = \{\neg s, q, \neg p, \neg r, r \vee p\}$$



$$S_9 = \{\neg S, q, \neg p, \neg r, r \vee p\}$$



$$S_{10} = \{\neg S, q, \neg p, \neg r, r \vee p, r\}$$

$$S_{10} = \{\neg s, q, \neg p, \neg r, r \vee p, r\}$$

Resolution between $r \vee p$ and $\neg p$

Resolution between $r \vee p$ and $\neg r$

$$f_{\text{wert},1}(\{r \vee p, \neg r\}, \{r \vee p, \neg r, p\}) = 1$$

$$S_{10} = \{\neg s, q, \neg p, \neg r, r \vee p, r\}$$

Resolution between $r \vee p$ and $\neg p$

Resolution between $r \vee p$ and $\neg r$

$$f_{\text{wert},1}(\{r \vee p, \neg r\}, \{r \vee p, \neg r, p\}) = 1$$

$$S_{10} = \{\neg s, q, \neg p, \boxed{\neg r}, r \vee p, \boxed{r}\}$$

Resolution between $r \vee p$ and $\neg p$

Resolution between $r \vee p$ and $\neg r$

$$f_{\text{wert},1}(\{r \vee p, \neg r\}, \{r \vee p, \neg r, p\}) = 1$$

$$S_{10} = \{\neg s, q, \neg p, \boxed{\neg r}, r \vee p, \boxed{r}\}$$

Resolution between $r \vee p$ and $\neg p$

Resolution between $r \vee p$ and $\neg r$

$$f_{\text{wert},1}(\{r \vee p, \neg r\}, \{r \vee p, \neg r, p\}) = 1$$

$$S_{10} = \{\neg s, q, \neg p, \boxed{\neg r}, r \vee p, \boxed{r}\}$$

Resolution between $r \vee p$ and $\neg p$

Resolution between $r \vee p$ and $\neg r$

Resolution between r and $\neg r$

$$f_{\text{wert},1}(\{r \vee p, \neg r\}, \{r \vee p, \neg r, p\}) = 1$$

$$S_{10} = \{\neg s, q, \neg p, \boxed{\neg r}, r \vee p, \boxed{r}\}$$

Resolution between $r \vee p$ and $\neg p$

Resolution between $r \vee p$ and $\neg r$

Resolution between r and $\neg r$

$$f_{\text{wert},1}(\{r \vee p, \neg r\}, \{r \vee p, \neg r, p\}) = 1$$

$$S_{10} = \{\neg s, q, \neg p, \boxed{\neg r}, \boxed{r \vee p}, \boxed{r}\}$$

Resolution between $r \vee p$ and $\neg p$

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Resolution between $r \vee p$ and $\neg p$

Resolution between $r \vee p$ and $\neg r$

Resolution between r and $\neg r$

$r \vee p$ can be subsumed into r

$$f_{\text{wert},1}(\{r \vee p, \neg r\}, \{r \vee p, \neg r, p\}) = 1$$

$$S_{10} = \{\neg s, q, \neg p, \boxed{\neg r}, \boxed{r \vee p}, \boxed{r}\}$$

Resolution between $r \vee p$ and $\neg p$

Resolution between $r \vee p$ and $\neg r$

Resolution between r and $\neg r$

$r \vee p$ can be subsumed into r

$$f_{\text{wert},1}(\{\neg r, r\}, \{\square\}) = 0$$

$$f_{\text{wert},1}(\{r \vee p, \neg r\}, \{r \vee p, \neg r, p\}) = 1$$

$$S_{10} = \{\neg s, q, \neg p, \boxed{\neg r}, \boxed{r \vee p}, \boxed{r}\}$$

Resolution between $r \vee p$ and $\neg p$

Resolution between $r \vee p$ and $\neg r$

Resolution between r and $\neg r$

$r \vee p$ can be subsumed into r

$$f_{\text{wert},1}(\{\neg r, r\}, \{\square\}) = 0$$

$$f_{\text{wert},1}(\{r \vee p, r\}, \{r\}) = 0$$

$$f_{\text{wert},1}(\{r \vee p, \neg r\}, \{r \vee p, \neg r, p\}) = 1$$

$$S_{10} = \{\neg s, q, \neg p, \boxed{\neg r}, \boxed{r \vee p}, \boxed{r}\}$$

Resolution between $r \vee p$ and $\neg p$

Resolution between $r \vee p$ and $\neg r$

Resolution between r and $\neg r$

$r \vee p$ can be subsumed into r

$$f_{\text{wert},1}(\{\neg r, r\}, \{\square\}) = 0$$

$$f_{\text{wert},1}(\{r \vee p, r\}, \{r\}) = 0$$

$$f_{\text{wert},1}(\{r \vee p, \neg r\}, \{r \vee p, \neg r, p\}) = 1$$

$$S_{10} = \{\neg s, q, \neg p, \neg r, r \vee p, r\}$$

$$S_{10} = \{\neg s, q, \neg p, \neg r, r \vee p, r\}$$



$$S_{10} = \{\neg s, q, \neg p, \neg r, r \vee p, r\}$$



$$S_{11} = \{\neg s, q, \neg p, \neg r, r \vee p, r, \square\}$$

$$S_{11} = \{\neg s, q, \neg p, \neg r, r \vee p, r, \square\}$$

$$S_{11} = \{\neg s, q, \neg p, \neg r, r \vee p, r, \square\}$$

$$\mathcal{G}(s_{11}) = \text{yes}$$