Consider the vector space with basis $B = \{w_1, w_2\}$ where $w_1 = (-2,2)$ and $w_2 = (-2, -2)$. Determine if the vector $v = (2, -10)$ lies in the span of B and, if so, determine the values of c_1 and c_2 such that $c_1 w_1 + c_2 w_2 = v$. If v is not in the span of B, enter DNE in all entries.

$c_1 =$ ☐

$c_2 =$ ☐

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Consider the vector space with basis $B = \{w_1, w_2\}$ where $w_1 = (-3,-1,-1)$ and $w_2 = (-1, -2, -1)$. Determine if the vector $v = (4, 3, 2)$ lies in the span of B and, if so, determine the values of c_1 and c_2 such that $c_1 w_1 + c_2 w_2 = v$. If v is not in the span of B, enter DNE in all entries.

$c_1 =$ ☐

$c_2 =$ ☐

Consider the vector space with basis $B = \{w_1, w_2\}$ where $w_1 = (3,-2,-1)$ and $w_2 = (1, 0, 0)$. Determine if the vector $v = (8, -6, -3)$ lies in the span of B and, if so, determine the values of c_1 and c_2 such that $c_1 w_1 + c_2 w_2 = v$. If v is not in the span of B, enter DNE in all entries.

$c_1 =$ ☐

$c_2 =$ ☐