Minterm Expression of $f(W, X, Y) = WX + XY' + WY'$

Step 1: Truth Table

W	X	Y	WX	XY'	WY'	$f = WX + XY' + WY'$
0	0	0	0	0	0	0
0	0	1	0	0	0	0
0	1	0	0	1	0	1
0	1	1	0	0	0	0
1	0	0	0	0	1	1
1	0	1	0	0	0	0
1	1	0	1	1	1	1
1	1	1	1	0	0	1

Step 2: Identify Rows Where $f = 1$

The function is true for the following combinations:

$$(0, 1, 0) \Rightarrow m_2 = W'XY'$$
$$(1, 0, 0) \Rightarrow m_4 = WX'Y'$$
$$(1, 1, 0) \Rightarrow m_6 = WXY'$$
$$(1, 1, 1) \Rightarrow m_7 = WXY$$

Step 3: Canonical SOP (Minterm) Expression

$$\boxed{f(W, X, Y) = m_2 + m_4 + m_6 + m_7}$$

Vaman Board Pin Connections

Signal	PYGMY Pins	Description
W	IO_28	Push button input with pull-down resistor
X	IO_23	Push button input with pull-down resistor
Y	IO_31	Push button input with pull-down resistor
f (Output)	7-segment display	Active-low output to display f as digit `0` or `1`

Note: Connect push buttons between input pins and 3.3V. Enable internal pull-down resistors. Use a common cathode 7-segment display. Segment logic is active-low: segment glows when output is 0.