

$$\frac{1}{\sqrt{2}} [-1, -2, -2, -2, 3, 1, 1, 1]$$

$$\left[ \begin{array}{c} \boxed{\left[ \frac{1}{\sqrt{2}}, \frac{1}{\sqrt{2}} \right]} \\ \downarrow \\ \boxed{2\downarrow} \end{array} \right] \cdot W_{\psi}(2, n) = \left[ -\frac{2}{\sqrt{2}}, -\frac{2}{\sqrt{2}}, \frac{1}{\sqrt{2}}, \frac{1}{\sqrt{2}} \right]$$

$$W_{\psi}(3, n) = f(n) \\ = [1, 3, 5, 7, 4, 3, 2, 1]$$

$$W_{\psi}(2, n) = \frac{1}{\sqrt{2}} [4, 12, 7, 3]$$

$$\frac{1}{2} [-4, -8, -5, 4, 3]$$

$$\left[ \begin{array}{c} \boxed{\left[ \frac{1}{\sqrt{2}}, \frac{1}{\sqrt{2}} \right]} \\ \downarrow \\ \boxed{2\downarrow} \end{array} \right] \cdot W_{\psi}(1, n) = [-4, 2]$$

$$\left[ \begin{array}{c} \boxed{\left[ \frac{1}{\sqrt{2}}, \frac{1}{\sqrt{2}} \right]} \\ \uparrow \\ \boxed{2\downarrow} \end{array} \right]$$

$$\frac{1}{\sqrt{2}} [1, 4, 8, 12, 11, 7, 5, 3, 1]$$

$$\left[ \begin{array}{c} \boxed{\left[ \frac{1}{\sqrt{2}}, \frac{1}{\sqrt{2}} \right]} \\ \downarrow \\ \boxed{2\downarrow} \end{array} \right] \cdot W_{\psi}(1, n) = [8, 5]$$

$$\frac{1}{2} [4, 16, 19, 10, 3]$$