

$$\Gamma^{(3)} =$$

The image displays the third-order vertex function $\Gamma^{(3)}$ as a sum of Feynman diagrams. The diagrams are arranged in two rows, separated by a plus sign.

The first row contains three diagrams:

- A wavy line enters a vertex labeled 4, which then splits into two outgoing straight lines with arrows.
- A wavy line enters a vertex labeled 4, which is part of a loop structure with vertex 6, followed by a wavy line connecting to vertex 5, which then splits into two outgoing straight lines.
- A wavy line enters a vertex labeled 4, which splits into two straight lines leading to vertices 6 and 5, which are connected by a vertical wavy line.

The second row contains two diagrams:

- A wavy line enters a vertex labeled 4, followed by a chain of two loops (vertices 6, 5, 8) and ending at vertex 7, which then splits into two outgoing straight lines.
- A wavy line enters a vertex labeled 4, which splits into two straight lines leading to vertices 6 and 7, which are connected by a vertical wavy line containing a loop with vertices 5 and 8.

 The series concludes with an ellipsis (\dots), indicating higher-order terms.