Given that $f(x)$ is a quadratic function and that $f(1) = 15, f(2) = 18$ and $f(3) = 19$.

Find the value of

$$\int_{1}^{3} f(x)dx$$

By Simpson's rule

$$\int_{1}^{3} f(x)dx = \frac{1}{3}(15 + 4 \times 18 + 19) = \frac{106}{3}$$

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