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2018 11
e

Evaluate $\int_0^3 e^{5x} dx$.

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$$\begin{aligned}\int_0^3 e^{5x} dx &= \left[\frac{1}{5} e^{5x} \right]_0^3 \\ &= \frac{1}{5} [e^{15} - e^0] \\ &= \frac{e^{15} - 1}{5}\end{aligned}$$

State Mean:
1.78

* These solutions have been provided by [projectmaths](#) and are not supplied or endorsed by NESA.

NESA: Marking Feedback

Skills addressed:

- finding the primitive and correctly evaluating the definite integral

Areas for students to improve include:

- understanding the rules for differentiating and integrating exponential functions
- using the correct order when substituting limits, that is, $F(3) - F(0)$ or $F(1) - F(3)$
- evaluating e^0 correctly

