

## Integration by Parts

$$\int t^4 \sqrt[3]{3-5t^5} dt$$

$$u = 3 - 5t^5$$

$$du = -25t^4 dt$$

$$dt = \cancel{\frac{du}{-25t^4}} \frac{du}{-25t^4}$$

$$\int t^4 \cdot u^{1/3} \cdot \frac{du}{-25t^4} \quad *$$

$$\frac{1}{-25} \int t^4 \cdot u^{1/3} \cdot \frac{du}{\cancel{t^4}}$$

$$\frac{1}{-25} \int u^{1/3} du$$

$$\frac{1}{-25} \cdot \frac{u^{4/3}}{4/3} = -\frac{1}{25} \cdot \frac{3u^{4/3}}{4}$$

$$= -\frac{3(3-5t^5)^{4/3}}{100} + C$$

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