

7-6 The Natural Base, e  **Lesson Quiz**

Simplify.

1. $\ln e^{-10t}$
2. $e^{0.25 \ln t}$
3. $-\ln e^x$
4. $2 \ln e^{x^2}$
5. What is the total amount for an investment of \$1000 invested at 7.25% for 15 years and compounded continuously?
6. The half-life of carbon-14 is 5730 years. What is the age of a fossil that has only 8% of its original carbon-14?

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1. $\ln e^{-10t}$ $-10t$

2. $e^{0.25 \ln t}$ $t^{0.25}$

3. $-\ln e^x$ $-x$

4. $2 \ln e^{x^2}$ $2x^2$

5. What is the total amount for an investment of \$1000 invested at 7.25% for 15 years and compounded continuously?

$\approx \$2966.85$

6. The half-life of carbon-14 is 5730 years. What is the age of a fossil that has only 8% of its original carbon-14?

$\approx 25,000$ yr