Answer on question \#59097, Physics / Atomic and Nuclear Physics

Question The half-life of a certain radioactive isotope is 32 hours. What fraction of the sample would remain after 16 huors?
0.50
0.25
0.62
0.71

Solution This fraction is

$$
e^{-\frac{t}{\tau}}=e^{\frac{16}{32}}=\frac{1}{\sqrt{e}} \approx 0.61
$$

The answer is 0.62 .

