

F-LE DDT-cay

Task

DDT is a toxic agricultural chemical that was used in the United States before it was banned in 1972. DDT has a half-life of 15 years. That means it takes 15 years for one half of a quantity of DDT to degrade into a different, harmless chemical. Suppose an environmental scientist in 2015 measured 9g of DDT in a soil sample taken from land where DDT was once heavily used. The scientist modeled the amount of DDT in the soil, a , with the function $a(t) = 9(0.5)^t$. She indicated in her notes that t represented "time."

- Find $a(0)$. What might this value represent in this context?
- Find $a(1)$ and $a(-1)$. What might these values represent in this context?
- Explain, with more specificity, what you think t represents in the function $a(t)$.



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