

Question #16954 Which of the following illustrates how the graphs of $y = a^x$ and $y = a^{-x}$ with $a > 1$ are related?

- (a) One is a reflection over the x-axis of the other.
- (b) One is a reflection over the y-axis of the other.
- (c) Both (a) and (b).
- (d) None of the above.

Please explain

Solution. Denote by $f_1(x) = a^x$ and $f_2(x) = a^{-x}$. Take any x_0 , then note that $f_1(x_0) = f_2(-x_0)$, so graphs of f_1 and f_2 are reflections of each other over the y-axis. **Answer.** b).