

Algebra and functions

February 21, 2024

1. (2 points) Simplify $\frac{a^6 \times a^3}{\sqrt{a^4}} \div a^{1/2}$. Give your answer in the form $a^{\frac{p}{q}}$.
2. (2 points) Find the value of x such that:
 - a) $27^x = 3$
 - b) $27^x = 81$
3. (3 points) Fully simplify $\frac{(3ab^3)^2 \times 2a^6}{6a^4b}$.