

1. Find the multiplicative inverse of 3^{-3} .
2. Simplify and write in exponential form.

$$\left(\frac{1}{2}\right)^{-3} \times \left(\frac{1}{2}\right)^{-2}$$

3. Simplify the following and write in exponential form.

$$\left(\frac{4}{5}\right)^5 \times \left(\frac{5}{6}\right)^5$$

4. Express 8^{-4} as a power with the base 2.
5. Simplify the following and write in exponential form.

$$(3^6 \div 3^8) \times 3^{-4}$$

6. Find the value of k if $(-2)^{k+1} \times (-2)^3 = (-2)^7$

7. Write the following in standard form

0.0035

8. Solve the following: $(81)^{-4} \div (729)^{2-x} = 9^{4x}$

9. Find the value of x if

$$\left(\frac{125}{27}\right) \times \left(\frac{125}{27}\right)^x = \left(\frac{5}{3}\right)^{18}$$