

Challenge Practice

For use with pages 196-200

Write and solve an equation to determine the value of the variable x that correctly completes the statement.

1. $3^{2x} \cdot 3^4 = 3^2$

3. $\frac{10^{3x}}{10^5} = 10^{19}$

5. $4^x \cdot 4^x \cdot 4^5 = 4^{17}$

7. $\frac{6^{4x}}{6^2 \cdot 6^3} = 6^{23}$

9. $2^{\frac{1}{3}} \cdot 2^x = 2^{\frac{7}{12}}$

2. $5^7 \cdot 5^{4x} = 5^{27}$

4. $\frac{7^{13}}{7^{5x}} = 7^8$

6. $2^{3x} \cdot 2^{4x} \cdot 2 = 2^{15}$

8. $\frac{10^x \cdot 10^3}{10^2} = 10^{10}$

10. $\frac{8^x}{8^{\frac{1}{2}}} = 8^{\frac{1}{10}}$