

Rational Exponents and Exponential Equations Homework

1. $\left(\frac{1}{121x^{16}}\right)^{-\frac{1}{2}}$

2. $\frac{\sqrt[4]{32x^{16}y^8z^9}}{4x^8y^2}$

3. $(a^2b^4)^{\frac{1}{2}}\sqrt[3]{b^6}$

3. $3^x = 3^2$

4. $4^x = 64$

5. $2^x = 32$

6. $7^x = 7^{2x+7}$

7. $6^{3x} = 6^{2x+1}$

8. $5^{x-1} = 25$

9. $4^{x-5} = 16$

10. $3^x = 9^{x+1}$

11. $27^x = 9^{x+3}$

12. $9^{-3x} \cdot 9^x = 27$

13. $81 \cdot 9^{-2b-2} = 27$

Super Challenge! If $(25\sqrt{5})^x = (\sqrt[3]{5})^{x+1}$, what does x equal?