

Paper Practice 8.7

Exponential Equations

Solve each equation.

1. $2^{x+2} = 64$

2. $11^{2x-1} = 1331$

3. $3^x = 243$

4. $25^x = 5$

5. $5^{3x-4} = 3125$

6. $10^{x+2} = 1000$

7. $27^x = 3$

8. $4^x = 4096$

9. $3^{x-4} = 81$

10. $9^{3x-2} = 6561$

11. $6^{7x+1} = 7776$

12. $4^{5x+4} = 16,384$

13. $8^x = 512$

14. $7^x = 343$

15. $2^x = 32$

16. $10^x = 10,000$

17. **GEOMETRY** The side length of a cube can be determined by $x = \frac{1}{6}\sqrt{6S}$, where S is the surface area of the cube. If a cube has a side length of 150 centimeters, what is the surface area of the cube in square centimeters?