

Simplify each radical expression. Use absolute value symbols when needed.

1. $\sqrt{81x^4}$

2. $\sqrt{121y^{10}}$

3. $\sqrt[3]{8g^6}$

4. $\sqrt[3]{125x^9}$

5. $\sqrt[5]{243x^5y^{15}}$

6. $\sqrt[3]{(x-9)^3}$

7. $\sqrt{25(x+2)^4}$

8. $\sqrt[3]{\frac{64x^9}{343}}$

9. $\sqrt[3]{-0.008}$

10. $\sqrt[4]{\frac{x^4}{81}}$

11. $\sqrt{36x^2y^6}$

12. $\sqrt[4]{(m-n)^4}$

13. A cube has volume $V = s^3$, where s is the length of a side. Find the side length for a cube with volume 8000 cm^3 .

14. The temperature T in degrees Celsius ($^{\circ}\text{C}$) of a liquid t minutes after heating is given by the formula $T = 8\sqrt{t}$. When is the temperature 48°C ?