

6.4 Simplify Exponential Statements

Write each expression in exponential form.

1) $(\sqrt[5]{3m})^6$

2) $(\sqrt[5]{m})^8$

Write each expression in radical form.

3) $(7k)^{\frac{1}{2}}$

4) $(7b)^{\frac{5}{3}}$

Simplify.

5) $\sqrt{100n}$

6) $\sqrt[3]{320m^4}$

7) $\sqrt{125a^2}$

8) $-6\sqrt[3]{32k^4}$

$$9) (m^9)^{\frac{5}{3}}$$

$$10) (x^8)^{\frac{3}{2}}$$

$$11) (343x^3)^{\frac{4}{3}}$$

$$12) (81n^2)^{\frac{1}{2}}$$

$$13) (1000x^3)^{\frac{4}{3}}$$

$$14) (r^{12})^{\frac{4}{3}}$$

$$15) (81m^4)^{\frac{3}{2}}$$

$$16) (16v^2)^{\frac{1}{2}}$$