

Write each expression in exponential form.

1) $(\sqrt[5]{3k})^2$

2) $(\sqrt[3]{4k})^2$

3) $3\sqrt[4]{v^2}$

4) $4\sqrt[5]{2n^2}$

Write each expression in radical form.

5) $7 \cdot (2m)^{\frac{1}{2}}$

6) $3 \cdot (10x^3)^{\frac{5}{6}}$

7) $(5k)^{\frac{5}{4}}$

8) $(3b)^{\frac{2}{3}}$

Simplify. Your answer should contain only positive exponents with no fractional exponents in the denominator.

9) $3xy^{\frac{5}{4}} \cdot xy \cdot x^{\frac{4}{3}}$

10) $2n \cdot 4m^{\frac{1}{2}} n^{\frac{2}{3}}$

Simplify.

11) $\left(uv^{\frac{3}{4}}\right)^2$

12) $\left(x^{\frac{1}{2}}y^2\right)^{\frac{1}{4}}$

13) $-3\sqrt{6} + 3\sqrt{24}$

14) $-\sqrt{8} - \sqrt{2}$

15) $-\sqrt{5}(-\sqrt{6} + \sqrt{10})$

16) $-4\sqrt{3}(\sqrt{5} + 2\sqrt{6})$

17) $\sqrt[3]{-256x^2y^3}$

18) $\sqrt{200x^4y}$

19) $\frac{\sqrt{3}}{3\sqrt{12}}$

20) $\frac{\sqrt{15}}{2\sqrt{20}}$