

6.5 Exponent Rules: Rational Exponents

Date _____ Period _____

Simplify. Your answer should contain only positive exponents.

1) $2a^{\frac{2}{3}} \cdot 4a^{\frac{4}{3}}$

2) $2x \cdot 3x^{\frac{3}{2}}$

3) $4n^{\frac{1}{2}} \cdot 2n^{\frac{7}{4}}$

4) $2x^2 \cdot x^{\frac{3}{2}}$

5) $\frac{3a \cdot a^{\frac{4}{3}}}{2a^3}$

6) $\frac{4n^{\frac{3}{2}}}{n^2 n^2}$

7) $\frac{4p^2}{3p^{\frac{1}{2}} \cdot 2p}$

8) $\frac{3n^{\frac{3}{2}} \cdot n^2}{n^{\frac{1}{2}}}$

9) $\left(x^{\frac{5}{3}} \cdot x\right)^{\frac{1}{3}}$

10) $\left(b^{\frac{7}{4}} b^{\frac{2}{3}}\right)^{\frac{3}{2}}$

11) $b \cdot \left(b^{\frac{4}{3}}\right)^4$

12) $\left(\frac{3}{a^2}\right)^3 \cdot a^{\frac{1}{2}}$