

## More Practice with Rational Exponents

Simplify.

1)  $3k^{\frac{5}{4}} \cdot 3k^{\frac{3}{2}}$

2)  $3x \cdot 2x$

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

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

5)  $4x^2 \cdot x$

6)  $(m^2)^{\frac{3}{2}}$

7)  $\left(\frac{1}{p^2}\right)^2$

8)  $(x^2)^{\frac{5}{3}}$

9)  $\left(k^{\frac{3}{2}}\right)^{\frac{1}{2}}$

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

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

11)  $\frac{4a^{\frac{1}{2}}}{a}$

12)  $\frac{x}{4x^{\frac{1}{3}}}$

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

14)  $\frac{2x^2}{2x^2}$

15)  $\frac{3a^2}{4a^{\frac{3}{4}}}$

Simplify.

16)  $3yx^2 \cdot 4x^{\frac{4}{3}}y^{\frac{1}{3}}$

17)  $4x^{\frac{5}{3}}y^{\frac{1}{2}} \cdot 4x^{\frac{4}{3}}y^{\frac{1}{2}}$

18)  $2u^2v^{\frac{1}{2}} \cdot 3u^{\frac{1}{2}}v^{\frac{1}{4}}$

19)  $2u^{\frac{1}{3}}v^{\frac{5}{3}} \cdot 2u^{\frac{3}{4}}$

20)  $x^{\frac{5}{3}}y^{\frac{1}{2}} \cdot 2x^{\frac{5}{3}}y^{\frac{2}{3}}$

21)  $\left(x^{\frac{1}{3}}y^{\frac{1}{2}}\right)^{\frac{5}{4}}$

22)  $\left(yx^{\frac{1}{2}}\right)^{\frac{5}{3}}$

23)  $\left(x^{\frac{5}{3}}y^{\frac{3}{2}}\right)^2$

24)  $\left(x^{\frac{2}{3}}y^{\frac{1}{3}}\right)^{\frac{1}{2}}$

25)  $\left(x^{\frac{1}{2}}y^{\frac{1}{2}}\right)^{\frac{3}{2}}$

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

26)  $\frac{2y^2}{2x \cdot 2xy}$

27)  $\frac{u^{\frac{3}{4}}}{\frac{7}{2v^4} \cdot 2v}$

28)  $\frac{2m^{\frac{5}{3}}}{4m^{\frac{5}{4}}n^{\frac{1}{2}} \cdot m^{\frac{5}{3}}}$

29)  $\frac{4x^{\frac{3}{2}}y^{\frac{3}{2}}}{4x^{\frac{3}{4}} \cdot 4x^{\frac{1}{2}}y^{\frac{4}{3}}}$

30)  $\frac{4yx^{\frac{1}{4}} \cdot xy^4}{x^{\frac{5}{3}}}$