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Math worksheet on *'Radicals - Convert Cube Root, Values and Variables, to Exponents - Positive (Level 2)'*. Part of a broader unit on *'Radicals - Simplifying Advanced'*

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1 Convert the radical to a fractional exponent

$\sqrt[3]{7dp^4}$

a $7^{\frac{1}{2}} \cdot d^{\frac{1}{2}} \cdot p^{\frac{4}{2}}$

b $21^{\frac{1}{3}} \cdot d^{\frac{1}{3}} \cdot p^{\frac{4}{3}}$

c $7^{\frac{1}{3}} \cdot d^{\frac{1}{3}} \cdot p^{\frac{4}{3}}$

d $7^{\frac{1}{3}} \cdot d^{\frac{3}{3}} \cdot p^{\frac{6}{3}}$

e $7^{-\frac{1}{3}} \cdot d^{-\frac{1}{3}} \cdot p^{-\frac{4}{3}}$

f $28^{\frac{1}{3}} \cdot d^{\frac{1}{3}} \cdot p^{\frac{4}{3}}$

2 Convert the radical to a fractional exponent

$\sqrt[3]{2z^4r^4}$

a $8^{\frac{1}{3}} \cdot z^{\frac{4}{3}} \cdot r^{\frac{4}{3}}$

b $2^{-\frac{1}{3}} \cdot z^{-\frac{4}{3}} \cdot r^{-\frac{4}{3}}$

c $6^{\frac{1}{3}} \cdot z^{\frac{4}{3}} \cdot r^{\frac{4}{3}}$

d $2^{\frac{1}{3}} \cdot z^{\frac{4}{3}} \cdot r^{\frac{4}{3}}$

e $2^{\frac{1}{3}} \cdot z^{\frac{4}{3}} \cdot r^{\frac{5}{3}}$

f $2^{\frac{1}{2}} \cdot z^{\frac{4}{2}} \cdot r^{\frac{4}{2}}$

3 Convert the radical to a fractional exponent

$\sqrt[3]{2d^5b^4}$

a $6^{\frac{1}{3}} \cdot d^{\frac{5}{3}} \cdot b^{\frac{4}{3}}$

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

c $2^{\frac{1}{3}} \cdot d^{\frac{5}{3}} \cdot b^{\frac{4}{3}}$

d $2^{\frac{1}{3}} \cdot d^{\frac{5}{3}} \cdot b^{\frac{3}{3}}$

e $2^{\frac{1}{3}} \cdot d^{\frac{6}{3}} \cdot b^{\frac{3}{3}}$

f $2^{\frac{1}{2}} \cdot d^{\frac{5}{2}} \cdot b^{\frac{4}{2}}$

4 Convert the radical to a fractional exponent

$\sqrt[3]{7b^4d^2}$

a $21^{\frac{1}{3}} \cdot b^{\frac{4}{3}} \cdot d^{\frac{2}{3}}$

b $7^{\frac{1}{2}} \cdot b^{\frac{4}{2}} \cdot d^{\frac{2}{2}}$

c $7^{\frac{1}{3}} \cdot b^{\frac{4}{3}} \cdot d^{\frac{3}{3}}$

d $14^{\frac{1}{3}} \cdot b^{\frac{4}{3}} \cdot d^{\frac{2}{3}}$

e $7^{-\frac{1}{3}} \cdot b^{-\frac{4}{3}} \cdot d^{-\frac{2}{3}}$

f $7^{\frac{1}{3}} \cdot b^{\frac{4}{3}} \cdot d^{\frac{2}{3}}$

5 Convert the radical to a fractional exponent

$\sqrt[3]{5y^4z}$

a $5^{\frac{1}{3}} \cdot y^{\frac{4}{3}} \cdot z^{\frac{2}{3}}$

b $5^{\frac{1}{3}} \cdot y^{\frac{4}{3}} \cdot z^{\frac{1}{3}}$

c $15^{\frac{1}{3}} \cdot y^{\frac{4}{3}} \cdot z^{\frac{1}{3}}$

d $5^{\frac{1}{3}} \cdot y^{\frac{4}{3}} \cdot z^{\frac{3}{3}}$

e $5^{\frac{1}{3}} \cdot y^{\frac{6}{3}} \cdot z^{\frac{2}{3}}$

f $5^{\frac{1}{2}} \cdot y^{\frac{4}{2}} \cdot z^{\frac{1}{2}}$

6 Convert the radical to a fractional exponent

$\sqrt[3]{7p^4d^4}$

a $7^{\frac{1}{3}} \cdot p^{\frac{6}{3}} \cdot d^{\frac{4}{3}}$

b $7^{\frac{1}{2}} \cdot p^{\frac{4}{2}} \cdot d^{\frac{4}{2}}$

c $7^{\frac{1}{3}} \cdot p^{\frac{3}{3}} \cdot d^{\frac{4}{3}}$

d $7^{\frac{1}{3}} \cdot p^{\frac{3}{3}} \cdot d^{\frac{3}{3}}$

e $28^{\frac{1}{3}} \cdot p^{\frac{4}{3}} \cdot d^{\frac{4}{3}}$

f $7^{\frac{1}{3}} \cdot p^{\frac{4}{3}} \cdot d^{\frac{4}{3}}$

7 Convert the radical to a fractional exponent

$\sqrt[3]{3p^2z^4}$

a $3^{\frac{1}{3}} \cdot p^{\frac{1}{3}} \cdot z^{\frac{5}{3}}$

b $3^{\frac{1}{3}} \cdot p^{\frac{3}{3}} \cdot z^{\frac{5}{3}}$

c $3^{-\frac{1}{3}} \cdot p^{-\frac{2}{3}} \cdot z^{-\frac{4}{3}}$

d $12^{\frac{1}{3}} \cdot p^{\frac{2}{3}} \cdot z^{\frac{4}{3}}$

e $3^{\frac{1}{3}} \cdot p^{\frac{2}{3}} \cdot z^{\frac{4}{3}}$

f $3^{\frac{1}{2}} \cdot p^{\frac{2}{2}} \cdot z^{\frac{4}{2}}$