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Math worksheet on *'Radicals - Convert Cube Root, Values and Variables, to Exponents - Positive (Level 1)'*. Part of a broader unit on *'Radicals - Simplifying Practice'*

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1 Convert the radical to a fractional exponent

$\sqrt[3]{11y}$

a $11^{-\frac{1}{3}} \cdot y^{-\frac{1}{3}}$ **b** $11^{\frac{1}{3}}$

c $11^{\frac{1}{3}} \cdot y^{\frac{3}{3}}$ **d** $11^{\frac{1}{3}} \cdot y^{\frac{1}{3}}$

e $11^{\frac{1}{2}} \cdot y^{\frac{1}{2}}$ **f** $22^{\frac{1}{3}} \cdot y^{\frac{1}{3}}$

2 Convert the radical to a fractional exponent

$\sqrt[3]{5m^2}$

a $10^{\frac{1}{3}} \cdot m^{\frac{2}{3}}$ **b** $5^{-\frac{1}{3}} \cdot m^{-\frac{2}{3}}$

c $15^{\frac{1}{3}} \cdot m^{\frac{2}{3}}$ **d** $5^{\frac{1}{3}} \cdot m^{\frac{4}{3}}$

e $5^{\frac{1}{3}} \cdot m^{\frac{2}{3}}$ **f** $20^{\frac{1}{3}} \cdot m^{\frac{2}{3}}$

3 Convert the radical to a fractional exponent

$\sqrt[3]{5y}$

a $5^{\frac{1}{3}} \cdot y^{\frac{1}{3}}$ **b** $5^{\frac{1}{3}} \cdot y^{\frac{2}{3}}$ **c** $5^{-\frac{1}{3}} \cdot y^{-\frac{1}{3}}$

d $5^{\frac{1}{3}} \cdot y^{\frac{3}{3}}$ **e** $10^{\frac{1}{3}} \cdot y^{\frac{1}{3}}$ **f** $20^{\frac{1}{3}} \cdot y^{\frac{1}{3}}$

4 Convert the radical to a fractional exponent

$\sqrt[3]{11b^4}$

a $11^{\frac{1}{3}} \cdot b^{\frac{6}{3}}$ **b** $33^{\frac{1}{3}} \cdot b^{\frac{4}{3}}$

c $11^{\frac{1}{2}} \cdot b^{\frac{4}{2}}$ **d** $11^{-\frac{1}{3}} \cdot b^{-\frac{4}{3}}$

e $11^{\frac{1}{3}} \cdot b^{\frac{3}{3}}$ **f** $11^{\frac{1}{3}} \cdot b^{\frac{4}{3}}$

5 Convert the radical to a fractional exponent

$\sqrt[3]{7c}$

a $28^{\frac{1}{3}} \cdot c^{\frac{1}{3}}$ **b** $14^{\frac{1}{3}} \cdot c^{\frac{1}{3}}$ **c** $21^{\frac{1}{3}} \cdot c^{\frac{1}{3}}$

d $7^{-\frac{1}{3}} \cdot c^{-\frac{1}{3}}$ **e** $7^{\frac{1}{3}} \cdot c^{\frac{1}{3}}$ **f** $7^{\frac{1}{3}} \cdot c^{\frac{2}{3}}$

6 Convert the radical to a fractional exponent

$\sqrt[3]{7d}$

a $7^{\frac{1}{3}} \cdot d^{\frac{1}{3}}$ **b** $14^{\frac{1}{3}} \cdot d^{\frac{1}{3}}$ **c** $21^{\frac{1}{3}} \cdot d^{\frac{1}{3}}$

d $28^{\frac{1}{3}} \cdot d^{\frac{1}{3}}$ **e** $7^{\frac{1}{2}} \cdot d^{\frac{1}{2}}$ **f** $7^{-\frac{1}{3}} \cdot d^{-\frac{1}{3}}$

7 Convert the radical to a fractional exponent

$\sqrt[3]{2r}$

a $2^{\frac{1}{3}} \cdot r^{\frac{3}{3}}$ **b** $2^{\frac{1}{3}} \cdot r^{\frac{1}{3}}$ **c** $4^{\frac{1}{3}} \cdot r^{\frac{1}{3}}$

d $2^{\frac{1}{2}} \cdot r^{\frac{1}{2}}$ **e** $6^{\frac{1}{3}} \cdot r^{\frac{1}{3}}$ **f** $2^{\frac{1}{3}} \cdot r^{\frac{2}{3}}$