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

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1 Convert the fractional exponent to a radical

$$5^{\frac{1}{2}} \cdot c^{\frac{3}{2}} \cdot y^{\frac{3}{2}}$$

a	$cy\sqrt{cy}$	**b**	$\sqrt{5c^3y^3}$
c	$cy\sqrt{6cy}$	**d**	$3c^3y\sqrt{6c^3y}$
e	$c^2y\sqrt{8cy}$	**f**	$2c^3y\sqrt{5cy}$

2 Convert the fractional exponent to a radical

$$2^{\frac{1}{2}} \cdot b^{\frac{3}{2}} \cdot m^{\frac{1}{2}}$$

a	$b\sqrt{5bm^2}$	**b**	$b\sqrt{bm}$
c	$4b\sqrt{4b^2m^2}$	**d**	$2b^3\sqrt{2bm}$
e	$3b^3\sqrt{3b^3m}$	**f**	$\sqrt{2b^3m}$

3 Convert the fractional exponent to a radical

$$2^{\frac{1}{2}} \cdot z^{\frac{5}{2}} \cdot c^{\frac{1}{2}}$$

a	**b**	**c**	**d**	**e**	**f**
$\sqrt{2z^5c}$	$z^3\sqrt{z^2c}$	$z^2\sqrt{4z^2c}$	$4z\sqrt{z^3c^2}$	$z^2\sqrt{z^3c^3}$	$z^4\sqrt{zc^2}$

4 Convert the fractional exponent to a radical

$$7^{\frac{1}{2}} \cdot d^{\frac{3}{2}} \cdot n^{\frac{5}{2}}$$

a	$d^3n^3\sqrt{10dn^2}$	**b**	$dn^2\sqrt{8dn}$
c	$d^3n^3\sqrt{4d^3n^3}$	**d**	$4dn^3\sqrt{5d^3n}$
e	$\sqrt{7d^3n^5}$	**f**	$dn\sqrt{4dn^3}$

5 Convert the fractional exponent to a radical

$$5^{\frac{1}{2}} \cdot p^{\frac{1}{2}} \cdot z^{\frac{3}{2}}$$

a	$3z\sqrt{6pz}$	**b**	$z^2\sqrt{5p^3z}$
c	$2z^2\sqrt{8pz^3}$	**d**	$2z^2\sqrt{pz}$
e	$\sqrt{5pz^3}$	**f**	$z^3\sqrt{2p^3z^3}$

6 Convert the fractional exponent to a radical

$$5^{\frac{1}{2}} \cdot d^{\frac{5}{2}} \cdot y^{\frac{5}{2}}$$

a	$\sqrt{5d^5y^5}$	**b**	$dy\sqrt{2dy^3}$
c	$dy^3\sqrt{dy}$	**d**	$2d^3y\sqrt{8dy}$
e	$d^4y^2\sqrt{7dy}$	**f**	$4d^3y^4\sqrt{8dy}$

7 Convert the fractional exponent to a radical

$$7^{\frac{1}{2}} \cdot z^{\frac{5}{2}} \cdot b^{\frac{3}{2}}$$

a	$z^2b^2\sqrt{4zb^2}$	**b**	$3z^3b\sqrt{10z^2b}$
c	$z^3b\sqrt{5z^2b^3}$	**d**	$\sqrt{7z^5b^3}$
e	$3z^2b\sqrt{7z^2b}$	**f**	$z^3b^3\sqrt{3zb^2}$