



Math worksheet on 'Radicals - Convert Square Root, Values and Variables, to Exponents - Negative (Level 1)'. Part of a broader unit on 'Radicals - Simplifying Intro'

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1 Convert the radical to a fractional exponent

$$\frac{1}{\sqrt{2r}}$$

a	b	c
$2^{\frac{1}{2}} \cdot r^{\frac{1}{2}}$	$2^{-\frac{1}{2}} \cdot r^{-\frac{1}{2}}$	$6^{-\frac{1}{2}} \cdot r^{-\frac{1}{2}}$
d	e	f
$2^{-\frac{1}{3}} \cdot r^{-\frac{1}{3}}$	$4^{-\frac{1}{2}} \cdot r^{-\frac{1}{2}}$	$2^{-\frac{1}{2}} \cdot r^{-\frac{2}{2}}$

2 Convert the radical to a fractional exponent

$$\frac{1}{\sqrt{11x^3}}$$

a	b
$11^{-\frac{1}{2}} \cdot x^{-\frac{5}{2}}$	$11^{\frac{1}{2}} \cdot x^{\frac{3}{2}}$
c	d
$11^{-\frac{1}{2}} \cdot x^{-\frac{2}{2}}$	$11^{-\frac{1}{3}} \cdot x^{-\frac{3}{3}}$
e	f
$22^{-\frac{1}{2}} \cdot x^{-\frac{3}{2}}$	$11^{-\frac{1}{2}} \cdot x^{-\frac{3}{2}}$

3 Convert the radical to a fractional exponent

$$\frac{1}{\sqrt{7x}}$$

a	b
$7^{-\frac{1}{2}} \cdot x^{-\frac{1}{2}}$	$28^{-\frac{1}{2}} \cdot x^{-\frac{1}{2}}$
c	d
$7^{-\frac{1}{2}} \cdot x^{-\frac{2}{2}}$	$21^{-\frac{1}{2}} \cdot x^{-\frac{1}{2}}$
e	f
$7^{-\frac{1}{2}}$	$7^{\frac{1}{2}} \cdot x^{\frac{1}{2}}$

4 Convert the radical to a fractional exponent

$$\frac{1}{\sqrt{3n^3}}$$

a	b	c
$3^{-\frac{1}{2}} \cdot n^{-\frac{3}{2}}$	$3^{-\frac{1}{2}} \cdot n^{-\frac{2}{2}}$	$3^{-\frac{1}{3}} \cdot n^{-\frac{3}{3}}$
d	e	f
$3^{\frac{1}{2}} \cdot n^{\frac{3}{2}}$	$6^{-\frac{1}{2}} \cdot n^{-\frac{3}{2}}$	$3^{-\frac{1}{2}} \cdot n^{-\frac{4}{2}}$

5 Convert the radical to a fractional exponent

$$\frac{1}{\sqrt{7c^3}}$$

a	b
$7^{-\frac{1}{2}} \cdot c^{-\frac{4}{2}}$	$7^{-\frac{1}{2}} \cdot c^{-\frac{3}{2}}$
c	d
$28^{-\frac{1}{2}} \cdot c^{-\frac{3}{2}}$	$7^{-\frac{1}{3}} \cdot c^{-\frac{3}{3}}$
e	f
$7^{-\frac{1}{2}} \cdot c^{-\frac{5}{2}}$	$21^{-\frac{1}{2}} \cdot c^{-\frac{3}{2}}$

6 Convert the radical to a fractional exponent

$$\frac{1}{\sqrt{2y^3}}$$

a	b	c
$6^{-\frac{1}{2}} \cdot y^{-\frac{3}{2}}$	$2^{-\frac{1}{2}} \cdot y^{-\frac{4}{2}}$	$2^{-\frac{1}{3}} \cdot y^{-\frac{3}{3}}$
d	e	f
$2^{\frac{1}{2}} \cdot y^{\frac{3}{2}}$	$4^{-\frac{1}{2}} \cdot y^{-\frac{3}{2}}$	$2^{-\frac{1}{2}} \cdot y^{-\frac{3}{2}}$

7 Convert the radical to a fractional exponent

$$\frac{1}{\sqrt{7b^3}}$$

a	b
$7^{-\frac{1}{2}} \cdot b^{-\frac{3}{2}}$	$28^{-\frac{1}{2}} \cdot b^{-\frac{3}{2}}$
c	d
$21^{-\frac{1}{2}} \cdot b^{-\frac{3}{2}}$	$14^{-\frac{1}{2}} \cdot b^{-\frac{3}{2}}$
e	f
$7^{-\frac{1}{3}} \cdot b^{-\frac{3}{3}}$	$7^{\frac{1}{2}} \cdot b^{\frac{3}{2}}$