



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

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1 Convert the fractional exponent to a radical

$$3^{-\frac{1}{3}} \cdot y^{-\frac{4}{3}} \cdot m^{-\frac{1}{3}}$$

a	b	c	d	e	f
$\frac{1}{y^3\sqrt[3]{y^2m^3}}$	$\frac{1}{y^3\sqrt[3]{6y^2m}}$	$\frac{1}{3y^3\sqrt[3]{2y^3m}}$	$\frac{1}{3y^2\sqrt[3]{6y^3m}}$	$\frac{1}{y^3\sqrt[3]{ym}}$	$\frac{1}{\sqrt[3]{3y^4m}}$

2 Convert the fractional exponent to a radical

$$7^{-\frac{1}{3}} \cdot r^{-\frac{4}{3}} \cdot d^{-\frac{5}{3}}$$

a	$\frac{1}{4r^2d^3\sqrt[3]{7r^3d}}$	b	$\frac{1}{r^3d^2\sqrt[3]{7rd^2}}$
c	$\frac{1}{rd^3\sqrt[3]{3rd^3}}$	d	$\frac{1}{\sqrt[3]{7r^4d^5}}$
e	$\frac{1}{2r^3d^3\sqrt[3]{4r^2d^4}}$	f	$\frac{1}{4rd\sqrt[3]{4rd}}$

3 Convert the fractional exponent to a radical

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

a	$\frac{1}{x^3\sqrt[3]{3x^2b}}$	b	$\frac{1}{\sqrt[3]{7x^4b^2}}$	c	$\frac{1}{x^3\sqrt[3]{4xb^2}}$	d	$\frac{1}{x^2\sqrt[3]{9xb^3}}$	e	$\frac{1}{x^2\sqrt[3]{4x^2b}}$	f	$\frac{1}{x^3\sqrt[3]{10x^3b}}$
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4 Convert the fractional exponent to a radical

$$11^{-\frac{1}{3}} \cdot m^{-\frac{5}{3}} \cdot d^{-\frac{2}{3}}$$

a	$\frac{1}{m^3\sqrt[3]{8m^2d^4}}$	b	$\frac{1}{m^2\sqrt[3]{7md^4}}$
c	$\frac{1}{\sqrt[3]{11m^5d^2}}$	d	$\frac{1}{4m^3\sqrt[3]{8m^4d^2}}$
e	$\frac{1}{4m^2\sqrt[3]{11m^2d^2}}$	f	$\frac{1}{m^3\sqrt[3]{7m^2d^3}}$

5 Convert the fractional exponent to a radical

$$3^{-\frac{1}{3}} \cdot m^{-\frac{1}{3}} \cdot p^{-\frac{2}{3}}$$

a	$\frac{1}{\sqrt[3]{3mp^2}}$	b	$\frac{1}{\sqrt[3]{mp}}$	c	$\frac{1}{\sqrt[3]{mp^3}}$	d	$\frac{1}{\sqrt[3]{m^3p^2}}$	e	$\frac{1}{\sqrt[3]{4mp^4}}$	f	$\frac{1}{2\sqrt[3]{6mp^3}}$
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6 Convert the fractional exponent to a radical

$$7^{-\frac{1}{3}} \cdot m^{-\frac{4}{3}} \cdot y^{-\frac{2}{3}}$$

a	$\frac{1}{3m^3\sqrt[3]{10my^4}}$	b	$\frac{1}{m^2\sqrt[3]{6my^3}}$	c	$\frac{1}{\sqrt[3]{7m^4y^2}}$	d	$\frac{1}{m^2\sqrt[3]{4m^2y^3}}$	e	$\frac{1}{m^3\sqrt[3]{10m^3y}}$	f	$\frac{1}{m^2\sqrt[3]{7my}}$
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7 Convert the fractional exponent to a radical

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

a	$\frac{1}{3b^3c^3\sqrt[3]{bc^3}}$	b	$\frac{1}{3b^3c^3\sqrt[3]{bc}}$	c	$\frac{1}{bc^3\sqrt[3]{4b^2c^3}}$	d	$\frac{1}{\sqrt[3]{3b^4c^4}}$	e	$\frac{1}{b^2c^3\sqrt[3]{bc}}$	f	$\frac{1}{bc^3\sqrt[3]{6bc}}$
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