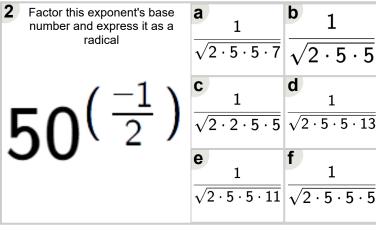**mobius**

Math worksheet on *'Exponents - Negative Fractiona[l] Exponents with Non-Square Integer Base - Exponen[t] to Factored Radical (Level 1)'*. Part of a broader unit on *'Exponents - Fractional Bases and Exponents - Practice'*
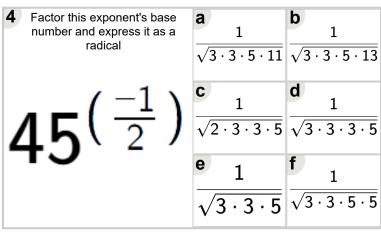
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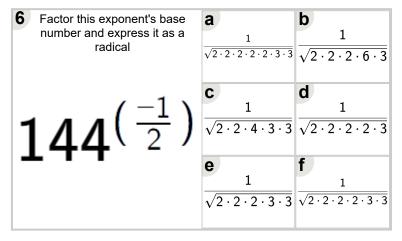app.mobius.academy/math/units/exponents_fractional_bases_and_exponents_practi[ce]

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1 Factor this exponent's base number and express it as a radical

$$72^{\left(\frac{-1}{2}\right)}$$

a	b
$\dfrac{1}{\sqrt{2 \cdot 2 \cdot 3 \cdot 3}}$	$\dfrac{1}{\sqrt{2 \cdot 2 \cdot 2 \cdot 2 \cdot 3 \cdot 3}}$

c	d
$\dfrac{1}{\sqrt{2 \cdot 2 \cdot 2 \cdot 3 \cdot 3}}$	$\dfrac{1}{\sqrt{2 \cdot 4 \cdot 3 \cdot 3}}$

e	f
$\dfrac{1}{\sqrt{2 \cdot 2 \cdot 2 \cdot 9}}$	$\dfrac{1}{\sqrt{2 \cdot 2 \cdot 2 \cdot 3}}$

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2 Factor this exponent's base number and express it as a radical

$$50^{\left(\frac{-1}{2}\right)}$$

a	b
$\dfrac{1}{\sqrt{2 \cdot 5 \cdot 5 \cdot 7}}$	$\dfrac{1}{\sqrt{2 \cdot 5 \cdot 5}}$

c	d
$\dfrac{1}{\sqrt{2 \cdot 2 \cdot 5 \cdot 5}}$	$\dfrac{1}{\sqrt{2 \cdot 5 \cdot 5 \cdot 13}}$

e	f
$\dfrac{1}{\sqrt{2 \cdot 5 \cdot 5 \cdot 11}}$	$\dfrac{1}{\sqrt{2 \cdot 5 \cdot 5 \cdot 5}}$

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3 Factor this exponent's base number and express it as a radical

$$150^{\left(\frac{-1}{2}\right)}$$

a	b
$\dfrac{1}{\sqrt{2 \cdot 3 \cdot 5 \cdot 5}}$	$\dfrac{1}{\sqrt{2 \cdot 15 \cdot 5}}$

c	d
$\dfrac{1}{\sqrt{2 \cdot 5 \cdot 5}}$	$\dfrac{1}{\sqrt{3 \cdot 5 \cdot 5}}$

e	f
$\dfrac{1}{\sqrt{2 \cdot 3 \cdot 5 \cdot 5 \cdot 7}}$	$\dfrac{1}{\sqrt{2 \cdot 3 \cdot 25}}$

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4 Factor this exponent's base number and express it as a radical

$$45^{\left(\frac{-1}{2}\right)}$$

a	b
$\dfrac{1}{\sqrt{3 \cdot 3 \cdot 5 \cdot 11}}$	$\dfrac{1}{\sqrt{3 \cdot 3 \cdot 5 \cdot 13}}$

c	d
$\dfrac{1}{\sqrt{2 \cdot 3 \cdot 3 \cdot 5}}$	$\dfrac{1}{\sqrt{3 \cdot 3 \cdot 3 \cdot 5}}$

e	f
$\dfrac{1}{\sqrt{3 \cdot 3 \cdot 5}}$	$\dfrac{1}{\sqrt{3 \cdot 3 \cdot 5 \cdot 5}}$

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5 Factor this exponent's base number and express it as a radical

$$100^{\left(\frac{-1}{2}\right)}$$

a	b
$\dfrac{1}{\sqrt{2 \cdot 2 \cdot 5 \cdot 5 \cdot 7}}$	$\dfrac{1}{\sqrt{2 \cdot 2 \cdot 2 \cdot 5 \cdot 5}}$

c	d
$\dfrac{1}{\sqrt{2 \cdot 2 \cdot 5 \cdot 5}}$	$\dfrac{1}{\sqrt{2 \cdot 2 \cdot 5}}$

e	f
$\dfrac{1}{\sqrt{2 \cdot 2 \cdot 5 \cdot 5 \cdot 11}}$	$\dfrac{1}{\sqrt{2 \cdot 5 \cdot 5}}$

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6 Factor this exponent's base number and express it as a radical

$$144^{\left(\frac{-1}{2}\right)}$$

a	b
$\dfrac{1}{\sqrt{2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 3 \cdot 3}}$	$\dfrac{1}{\sqrt{2 \cdot 2 \cdot 2 \cdot 6 \cdot 3}}$

c	d
$\dfrac{1}{\sqrt{2 \cdot 2 \cdot 4 \cdot 3 \cdot 3}}$	$\dfrac{1}{\sqrt{2 \cdot 2 \cdot 2 \cdot 2 \cdot 3}}$

e	f
$\dfrac{1}{\sqrt{2 \cdot 2 \cdot 2 \cdot 3 \cdot 3}}$	$\dfrac{1}{\sqrt{2 \cdot 2 \cdot 2 \cdot 2 \cdot 3 \cdot 3}}$

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7 Factor this exponent's base number and express it as a radical

$$18^{\left(\frac{-1}{2}\right)}$$

a	b
$\dfrac{1}{\sqrt{2 \cdot 3 \cdot 3 \cdot 5}}$	$\dfrac{1}{\sqrt{2 \cdot 3 \cdot 3 \cdot 13}}$

c	d
$\dfrac{1}{\sqrt{2 \cdot 3 \cdot 3}}$	$\dfrac{1}{\sqrt{2 \cdot 3 \cdot 3 \cdot 11}}$

e	f
$\dfrac{1}{\sqrt{2 \cdot 3 \cdot 3 \cdot 3}}$	$\dfrac{1}{\sqrt{2 \cdot 3 \cdot 3 \cdot 7}}$