Math worksheet on *'Exponents - Negative Fractiona Exponents with Non-Square Integer Base - Exponen to Factored Exponent (Level 2)'*. Part of a broader un on *'Exponents - Fractional Bases and Exponents - Practice'*

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1 Factor the base number and simplify to make it easier to solve

$48^{\left(\frac{-1}{2}\right)}$

a $\frac{1}{(2\cdot 2\cdot 2\cdot 3)^{\left(\frac{1}{2}\right)}}$

b $\frac{1}{(2\cdot 2\cdot 2\cdot 6)^{\left(\frac{1}{2}\right)}}$

c $\frac{1}{(2\cdot 2\cdot 4\cdot 3)^{\left(\frac{1}{2}\right)}}$

d $\frac{1}{(2\cdot 2\cdot 2\cdot 2\cdot 3)^{\left(\frac{1}{2}\right)}}$

e $\frac{1}{(2\cdot 2\cdot 2\cdot 2\cdot 3\cdot 7)^{\left(\frac{1}{2}\right)}}$

f $\frac{1}{(2\cdot 2\cdot 2\cdot 2\cdot 2\cdot 3)^{\left(\frac{1}{2}\right)}}$

2 Factor the base number and simplify to make it easier to solve

$96^{\left(\frac{-1}{2}\right)}$

a $\frac{1}{(2\cdot 2\cdot 2\cdot 2\cdot 2\cdot 2\cdot 3)^{\left(\frac{1}{2}\right)}}$

b $\frac{1}{(2\cdot 2\cdot 2\cdot 2\cdot 2\cdot 3\cdot 3)^{\left(\frac{1}{2}\right)}}$

c $\frac{1}{(2\cdot 4\cdot 2\cdot 2\cdot 3)^{\left(\frac{1}{2}\right)}}$

d $\frac{1}{(2\cdot 2\cdot 2\cdot 2\cdot 2\cdot 3\cdot 5)^{\left(\frac{1}{2}\right)}}$

e $\frac{1}{(2\cdot 2\cdot 2\cdot 2\cdot 2\cdot 3)^{\left(\frac{1}{2}\right)}}$

f $\frac{1}{(2\cdot 2\cdot 2\cdot 2\cdot 2\cdot 3\cdot 13)^{\left(\frac{1}{2}\right)}}$

3 Factor the base number and simplify to make it easier to solve

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

a $\frac{1}{(2\cdot 5\cdot 5)^{\left(\frac{1}{2}\right)}}$

b $\frac{1}{(2\cdot 3\cdot 5\cdot 5)^{\left(\frac{1}{2}\right)}}$

c $\frac{1}{(2\cdot 5\cdot 5\cdot 5)^{\left(\frac{1}{2}\right)}}$

d $\frac{1}{(2\cdot 2\cdot 5\cdot 5)^{\left(\frac{1}{2}\right)}}$

e $\frac{1}{(2\cdot 5\cdot 5\cdot 7)^{\left(\frac{1}{2}\right)}}$

f $\frac{1}{(2\cdot 5\cdot 5\cdot 13)^{\left(\frac{1}{2}\right)}}$

4 Factor the base number and simplify to make it easier to solve

$24^{\left(\frac{-1}{2}\right)}$

a $\frac{1}{(2\cdot 2\cdot 6)^{\left(\frac{1}{2}\right)}}$

b $\frac{1}{(2\cdot 2\cdot 2\cdot 3\cdot 11)^{\left(\frac{1}{2}\right)}}$

c $\frac{1}{(2\cdot 4\cdot 3)^{\left(\frac{1}{2}\right)}}$

d $\frac{1}{(2\cdot 2\cdot 2\cdot 3)^{\left(\frac{1}{2}\right)}}$

e $\frac{1}{(2\cdot 2\cdot 2\cdot 3\cdot 3)^{\left(\frac{1}{2}\right)}}$

f $\frac{1}{(2\cdot 2\cdot 3)^{\left(\frac{1}{2}\right)}}$

5 Factor the base number and simplify to make it easier to solve

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

a $\frac{1}{(2\cdot 4\cdot 2\cdot 3\cdot 3)^{\left(\frac{1}{2}\right)}}$

b $\frac{1}{(2\cdot 2\cdot 2\cdot 2\cdot 3\cdot 3\cdot 5)^{\left(\frac{1}{2}\right)}}$

c $\frac{1}{(2\cdot 2\cdot 2\cdot 3\cdot 3)^{\left(\frac{1}{2}\right)}}$

d $\frac{1}{(2\cdot 2\cdot 4\cdot 3\cdot 3)^{\left(\frac{1}{2}\right)}}$

e $\frac{1}{(2\cdot 2\cdot 2\cdot 2\cdot 3\cdot 3)^{\left(\frac{1}{2}\right)}}$

f $\frac{1}{(2\cdot 2\cdot 2\cdot 2\cdot 3\cdot 3\cdot 3)^{\left(\frac{1}{2}\right)}}$

6 Factor the base number and simplify to make it easier to solve

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

a $\frac{1}{(2\cdot 2\cdot 5\cdot 5\cdot 11)^{\left(\frac{1}{2}\right)}}$

b $\frac{1}{(2\cdot 10\cdot 5)^{\left(\frac{1}{2}\right)}}$

c $\frac{1}{(2\cdot 2\cdot 5)^{\left(\frac{1}{2}\right)}}$

d $\frac{1}{(2\cdot 2\cdot 2\cdot 5\cdot 5)^{\left(\frac{1}{2}\right)}}$

e $\frac{1}{(2\cdot 2\cdot 5\cdot 5)^{\left(\frac{1}{2}\right)}}$

f $\frac{1}{(2\cdot 2\cdot 25)^{\left(\frac{1}{2}\right)}}$

7 Factor the base number and simplify to make it easier to solve

$75^{\left(\frac{-1}{2}\right)}$

a $\frac{1}{(2\cdot 3\cdot 5\cdot 5)^{\left(\frac{1}{2}\right)}}$

b $\frac{1}{(3\cdot 5\cdot 5\cdot 13)^{\left(\frac{1}{2}\right)}}$

c $\frac{1}{(3\cdot 3\cdot 5\cdot 5)^{\left(\frac{1}{2}\right)}}$

d $\frac{1}{(3\cdot 5\cdot 5\cdot 5)^{\left(\frac{1}{2}\right)}}$

e $\frac{1}{(3\cdot 5\cdot 5)^{\left(\frac{1}{2}\right)}}$

f $\frac{1}{(3\cdot 5\cdot 5\cdot 7)^{\left(\frac{1}{2}\right)}}$