

Exponents - Negative Bases and Exponents : Practice

- 1** Multiply -1s as shown. Remember that $-1 \times -1 = 1$
 $-1 \times -1 = ?$

A	B
-1	1

- 2** Multiply -4s as shown. Remember that $-4 \times -4 = 16$
 $-4 \times -4 \times -4 \times -4 = ?$

A	B
-256	256

- 3** Find the answer when this number is multiplied by itself as shown

$$(-7) \times (-7)$$

A	B	C
49	-5	52
D	E	F
-14	46	2,401

- 4** Find the answer when this number is multiplied by itself as shown

$$(-6) \times (-6) \times (-6)$$

A	B	C
-18	1,296	-216
D	E	F
-213	36	-6

- 5** Find the answer when this number is raised to its exponent

$$(-9)^2$$

A	B	C
81	-18	84
D	E	F
-7	6,561	-9

- 6** Find the answer when this number is raised to its exponent

$$(-2)^4$$

A	B	C
64	4	-32
D	E	F
-8	13	16

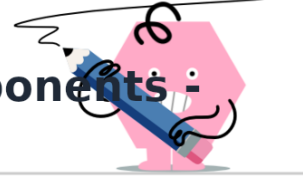
- 7** Find the answer when this number is raised to its exponent
 6^{-2}

A	B	C
36	$\frac{1}{12}$	$\frac{1}{36}$
D	E	F
$\frac{1}{6}$	12	39

- 8** Find the answer when this fraction is raised to its exponent

$$\left(\frac{1}{3}\right)^{-1}$$

A	B	C
$-\frac{2}{-3}$	$-\frac{1}{0}$	3
D	E	F
$\frac{1}{3}$	$\frac{1}{-3}$	$\frac{1}{0}$



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- 9** Find the answer when this fraction is raised to its exponent

$$\left(\frac{11}{7}\right)^{-1}$$

A $\frac{1}{7}$	B 1	C 0
D $\frac{1}{0}$	E $-\frac{11}{0}$	F $\frac{7}{11}$

- 10** Given the hint, what is the fractional exponent the same as?

$$36^{\left(\frac{-1}{2}\right)} \cdot 36^{\left(\frac{-1}{2}\right)} = \frac{1}{36}$$

$$36^{\left(\frac{-1}{2}\right)} = ?$$

A $\sqrt{36}^2$	B $\frac{1}{\sqrt{36}^2}$	C $\frac{1}{3\sqrt{36}}$
D $\frac{1}{2\sqrt{36}}$	E $\frac{1}{1}$	F $\frac{1}{\sqrt{36}}$

- 11** Given the hint, what is the fractional exponent the same as?

$$16^{\left(\frac{-1}{4}\right)} \cdot 16^{\left(\frac{-1}{4}\right)} \cdot 16^{\left(\frac{-1}{4}\right)} \cdot 16^{\left(\frac{-1}{4}\right)} = \frac{1}{16}$$

$$16^{\left(\frac{-1}{4}\right)} = ?$$

A $\frac{1}{1}$	B $\sqrt[4]{16}$	C $\frac{1}{\sqrt[4]{16}^2}$
D $\sqrt[4]{16}^4$	E $\frac{1}{\sqrt[4]{16}}$	F $\frac{1}{2\sqrt[4]{16}}$

- 12** Given the hint, what is the fractional exponent the same as?

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

$$25^{\left(\frac{-1}{2}\right)} = ?$$

A 25^2	B $\frac{1}{5}$	C $\frac{1}{5^2}$
D $\frac{1}{6}$	E $\sqrt[3]{25}$	F $\frac{1}{4}$

- 13** Given the hint, what is the fractional exponent the same as?

$$64^{\left(\frac{-1}{3}\right)} \cdot 64^{\left(\frac{-1}{3}\right)} \cdot 64^{\left(\frac{-1}{3}\right)} = \frac{1}{64}$$

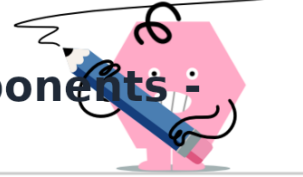
$$64^{\left(\frac{-1}{3}\right)} = ?$$

A $\sqrt[4]{64}$	B $\frac{1}{5}$	C $\frac{1}{4^2}$
D $\frac{1}{3}$	E $\frac{1}{4}$	F 64^2

- 14** Find the answer when this factored number is raised to its exponent

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

A $\frac{1}{2\sqrt{4}}$	B $\frac{1}{2\sqrt{2}}$	C $\frac{1}{2\sqrt{3}}$
D $\frac{1}{2}$	E $\frac{1}{4}$	F $\frac{1}{1}$



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- 15** Factor the base number and simplify to make it easier to solve

$$16^{\left(\frac{-1}{2}\right)}$$

A $\frac{1}{(2 \cdot 2 \cdot 2)^{\left(\frac{1}{2}\right)}}$	B $\frac{1}{(2 \cdot 2 \cdot 2 \cdot 2 \cdot 7)^{\left(\frac{1}{2}\right)}}$
C $\frac{1}{(2 \cdot 4 \cdot 2)^{\left(\frac{1}{2}\right)}}$	D $\frac{1}{(2 \cdot 2 \cdot 2 \cdot 2)^{\left(\frac{1}{2}\right)}}$
E $\frac{1}{(2 \cdot 2 \cdot 4)^{\left(\frac{1}{2}\right)}}$	F $\frac{1}{(2 \cdot 2 \cdot 2 \cdot 2 \cdot 2)^{\left(\frac{1}{2}\right)}}$

- 16** Factor the base number and simplify to make it easier to solve

$$216^{\left(\frac{-1}{3}\right)}$$

A $\frac{1}{(2 \cdot 2 \cdot 2 \cdot 3 \cdot 3)^{\left(\frac{1}{3}\right)}}$	B $\frac{1}{(2 \cdot 2 \cdot 3 \cdot 3 \cdot 3)^{\left(\frac{1}{3}\right)}}$
C $\frac{1}{(2 \cdot 2 \cdot 6 \cdot 3 \cdot 3)^{\left(\frac{1}{3}\right)}}$	D $\frac{1}{(2 \cdot 2 \cdot 2 \cdot 3 \cdot 3 \cdot 3 \cdot 13)^{\left(\frac{1}{3}\right)}}$
E $\frac{1}{(2 \cdot 2 \cdot 2 \cdot 3 \cdot 9)^{\left(\frac{1}{3}\right)}}$	F $\frac{1}{(2 \cdot 2 \cdot 2 \cdot 3 \cdot 3 \cdot 3)^{\left(\frac{1}{3}\right)}}$

- 17** Find the answer when this factored number is raised to its exponent

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

A $\frac{1}{5}$	B $\frac{1}{4}$	C $\frac{1}{4\sqrt{4}}$
D $\frac{1}{3}$	E $\frac{1}{1}$	

- 18** Find the radical that is the same as this number raised to its exponent

$$36^{\left(\frac{-1}{2}\right)}$$

A $\frac{1}{1}$	B $\frac{1}{\sqrt{36}^2}$	C $\frac{1}{\sqrt{4}}$
D $\sqrt{36}^2$	E $\frac{1}{\sqrt{36}}$	F $\frac{1}{4\sqrt{36}}$

- 19** Find the answer when this number is raised to its exponent

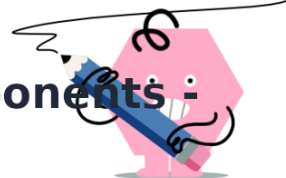
$$36^{\left(\frac{-1}{2}\right)}$$

A $\frac{1}{5}$	B $\frac{1}{2}$	C $\frac{1}{6}$
D $\frac{1}{1}$	E $\frac{1}{4}$	F $\frac{1}{3}$

- 20** Find the answer when this number is raised to its exponent

$$216^{\left(\frac{-1}{3}\right)}$$

A $\frac{1}{1}$	B $\frac{1}{6}$	C $\frac{1}{5}$
D $\frac{1}{2}$	E $\frac{1}{6\sqrt[3]{2}}$	F $\frac{1}{4}$



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- 21** Find the radical that is the same as this number raised to its exponent

$$216^{\left(\frac{-1}{3}\right)}$$

A $\frac{1}{2\sqrt[3]{216}}$	B $\sqrt[3]{216}^3$
C $\frac{1}{\sqrt[3]{216}}$	D $\sqrt[3]{216}$
E $\frac{1}{1}$	F $\frac{1}{\sqrt[3]{216}^2}$

- 22** Factor the base number and simplify to make it easier to solve

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

A $\frac{1}{(3 \cdot 5 \cdot 5 \cdot 11)^{\left(\frac{1}{2}\right)}}$	B $\frac{1}{(3 \cdot 5 \cdot 5 \cdot 5)^{\left(\frac{1}{2}\right)}}$
C $\frac{1}{(3 \cdot 5 \cdot 5)^{\left(\frac{1}{2}\right)}}$	D $\frac{1}{(3 \cdot 5 \cdot 5 \cdot 7)^{\left(\frac{1}{2}\right)}}$
E $\frac{1}{(3 \cdot 5 \cdot 5 \cdot 13)^{\left(\frac{1}{2}\right)}}$	F $\frac{1}{(2 \cdot 3 \cdot 5 \cdot 5)^{\left(\frac{1}{2}\right)}}$

- 23** Factor the base number and simplify to make it easier to solve

$$108^{\left(\frac{-1}{2}\right)}$$

A $\frac{1}{(2 \cdot 2 \cdot 3 \cdot 3 \cdot 3 \cdot 7)^{\left(\frac{1}{2}\right)}}$	B $\frac{1}{(2 \cdot 2 \cdot 3 \cdot 3 \cdot 3 \cdot 3)^{\left(\frac{1}{2}\right)}}$
C $\frac{1}{(2 \cdot 2 \cdot 3 \cdot 3 \cdot 3 \cdot 13)^{\left(\frac{1}{2}\right)}}$	D $\frac{1}{(2 \cdot 2 \cdot 2 \cdot 3 \cdot 3 \cdot 3)^{\left(\frac{1}{2}\right)}}$
E $\frac{1}{(2 \cdot 2 \cdot 3 \cdot 3)^{\left(\frac{1}{2}\right)}}$	F $\frac{1}{(2 \cdot 2 \cdot 3 \cdot 3 \cdot 3)^{\left(\frac{1}{2}\right)}}$

- 24** Find the answer when this factored number is raised to its exponent

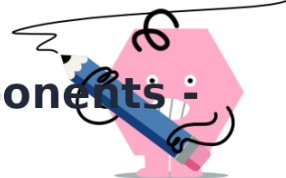
$$(2 \cdot 2 \cdot 3 \cdot 3)^{\left(\frac{-1}{2}\right)}$$

A $\frac{1}{6}$	B $\frac{1}{6\sqrt{3}}$	C $\frac{1}{6\sqrt{4}}$
D $\frac{1}{6\sqrt{2}}$	E $\frac{1}{1}$	F $\frac{1}{4}$

- 25** Find the answer when this factored number is raised to its exponent

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

A $\frac{1}{5\sqrt[4]{3}}$	B $\frac{1}{2\sqrt[4]{4}}$	C $\frac{1}{2}$
D $\frac{1}{2\sqrt[4]{3}}$	E $\frac{1}{\sqrt[4]{3}}$	F $\frac{1}{2\sqrt[4]{2}}$



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26 Find the radical that is the same as this number raised to its exponent

$$180^{\left(\frac{-1}{2}\right)}$$

A

$$\frac{1}{\sqrt{180}}$$

B

$$\frac{1}{\sqrt{180}^2}$$

C

$$\frac{1}{1}$$

D

$$\sqrt{180}^2$$

E

$$\frac{1}{2\sqrt{180}}$$

F

$$\sqrt{180}$$

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

$$108^{\left(\frac{-1}{3}\right)}$$

A

$$\frac{1}{\sqrt[3]{2 \cdot 2 \cdot 3 \cdot 3 \cdot 3 \cdot 3}}$$

B

$$\frac{1}{\sqrt[3]{2 \cdot 3 \cdot 3 \cdot 3}}$$

C

$$\frac{1}{\sqrt[3]{2 \cdot 2 \cdot 3 \cdot 3}}$$

D

$$\frac{1}{\sqrt[3]{2 \cdot 2 \cdot 3 \cdot 3 \cdot 3 \cdot 11}}$$

E

$$\frac{1}{\sqrt[3]{2 \cdot 2 \cdot 3 \cdot 3 \cdot 3}}$$

F

$$\frac{1}{\sqrt[3]{2 \cdot 2 \cdot 9 \cdot 3}}$$

27 Find the radical that is the same as this number raised to its exponent

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

A

$$\frac{1}{3\sqrt{18}}$$

B

$$\sqrt{18}^2$$

C

$$\frac{1}{4\sqrt{18}}$$

D

$$\frac{1}{\sqrt{18}}$$

E

$$\sqrt{18}$$

F

$$\frac{1}{1}$$

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

$$180^{\left(\frac{-1}{2}\right)}$$

A

$$\frac{1}{\sqrt{2 \cdot 2 \cdot 2 \cdot 3 \cdot 3 \cdot 5}}$$

B

$$\frac{1}{\sqrt{2 \cdot 2 \cdot 3 \cdot 15}}$$

C

$$\frac{1}{\sqrt{2 \cdot 2 \cdot 3 \cdot 3 \cdot 5}}$$

D

$$\frac{1}{\sqrt{2 \cdot 2 \cdot 3 \cdot 3 \cdot 5 \cdot 5}}$$

E

$$\frac{1}{\sqrt{2 \cdot 2 \cdot 3 \cdot 3}}$$

F

$$\frac{1}{\sqrt{2 \cdot 3 \cdot 3 \cdot 5}}$$

30 Find the answer when this number is raised to its exponent

$$16^{\left(\frac{-1}{2}\right)}$$

A

$$\frac{1}{4}$$

B

$$\frac{1}{2}$$

C

$$\frac{1}{3}$$

D

$$\frac{1}{4\sqrt{3}}$$

E

$$\frac{1}{4\sqrt{2}}$$

F

$$\frac{1}{4\sqrt{4}}$$