Indices: Negative Powers

1

Work out 6^{-2}

a negative power means one over

$= \frac{1}{\square}$

work out the power

$= \frac{1}{\square}$

Answer _____

2

Work out 2^{-5}

a negative power means one over

$= \frac{1}{2^5}$

work out the power

$= \frac{1}{\square}$

Answer _____

3

Work out 10^{-3}

a negative power means one over

$= \frac{1}{\square}$

work out the power

$= \frac{1}{\square}$

Answer _____

4

Work out 3^{-4}

a negative power means one over

$= \frac{1}{\square}$

work out the power

$= \frac{1}{\square}$

Answer _____

5

Work out $\left(\frac{2}{5}\right)^{-3}$

the minus flips it over

$= \left(\square\right)^3$

use the power on the top and the bottom

$= \frac{\square}{\square}$

Answer _____

6

Work out $\left(\frac{1}{6}\right)^{-2}$

Answer _____

7

Simplify $x^5 \times x^{-9}$

Give your answer with no negative powers.

Answer _____

8

Write $\frac{1}{125}$ as a power of 5.

Answer _____

Indices: Negative Powers *further practice*

9

Work out

$$4^{-1} + 2^{-2}$$

Answer _____

10

Write in order, smallest first.

$$4^{-1} \quad 5^{0} \quad 2^{-3} \quad 3^{-2}$$

Order _____

11

Simplify. Give your answer with no negative powers.

$$\frac{x^{-2} \times x^{5}}{x^{7}}$$

Answer _____

12

The number of bacteria, N, on a surface t hours after it is cleaned is given by the formula below.
Find N when $t = 4$.

$$N = 512 \times 2^{-t}$$

Answer _____

13

Find the value of n.

$$3^{n} = \frac{1}{81}$$

Answer _____

14

A rectangle is 2^{-3} m long and 2^{-1} m wide. Write its area as a power of 2.

Answer _____

15

A fair coin is flipped 6 times.
The probability of 6 heads is $\left(\frac{1}{2}\right)^{6}$.
Write this probability as a power of 2.

Answer _____

16

Sam says 10^{-3} is bigger than 10^{-2}, because 3 is bigger than 2.
Is Sam right? Explain.

Answer _____