Indices

Numbers are made up of two parts. The main part is called the

__________________ and the number in the top right corner is called the

______________ .

When we count, we count in base ____________ . The number 10^0 is the

_____________ column. The number 10^1 is the ______________ column. The

number 10^2 is the __________________ column.

We can partition numbers using our number system. For example, 23,715

would be partitioned like this:

(2× _______) + (3 × ______) + (7 × _______) + (1 × ________) + (5 ×

_________)

Computers use a different base called binary. This is base _________ . The

highest digit in binary is ________ .

When we look at numbers to the power of zero, they all equal __________ .

Looking at the number 8, 8^1 = _______, 8^0 = ________ , 8^2 =

_________________ = __________.

We can have fractional indices such as $343^{\frac{1}{3}} =$ _______________ .

Another example is $64^{\frac{1}{2}} =$ ________________ and $64^{\frac{1}{3}}$ = _________________.

So to recap, we have $9^{\frac{1}{2}} = 3$ because __________________________________

____.

$9^0 = 1$ because ____

____.

9^{-1} has the effect of giving us the reciprocal. The reciprocal of 9 is _______ .

$\left(\frac{3}{4}\right)^{-1} = \qquad\qquad = \qquad\qquad .$

Provided that numbers have ________________________________, we can

multiply two numbers together.

$7^2 \times 7^3 =$ ________________________ = _________ .

You should notice that when we are multiplying indices together, we do it by

______________ the indexes.

So we can write, $7^a \times 7^b$ = _______________ .

When we divide one number by another involving indices, we ____________ .

So we can write, $7^a \div 7^b$ = _______________ .

Write the recap information under here.