

a and b are two numbers having the same no. of digits and same sum of digits (=28). Can one be a multiple of the other?  
a is not equal to b

$x$   $f(x)$

$$b = z \cdot n a$$

$$a = l \pmod{9}$$

$$b = 1 \pmod{9}$$

$$z \cdot n \pmod{9}$$

$$n = 1$$

Can  $\sin(x)$  be expressed as a polynomial in  $x$ ?

If  $a+b+c=30$ , how many  $(a,b,c)$  tuples possible ( $a,b,c$  all non-negative)

Find a point on the plane of a triangle such that the sum of its distances from three vertices is minimum

$$0^0 = \frac{0^a}{0^a} = \frac{0}{0} = \text{undefined} \quad x^0 = 1$$

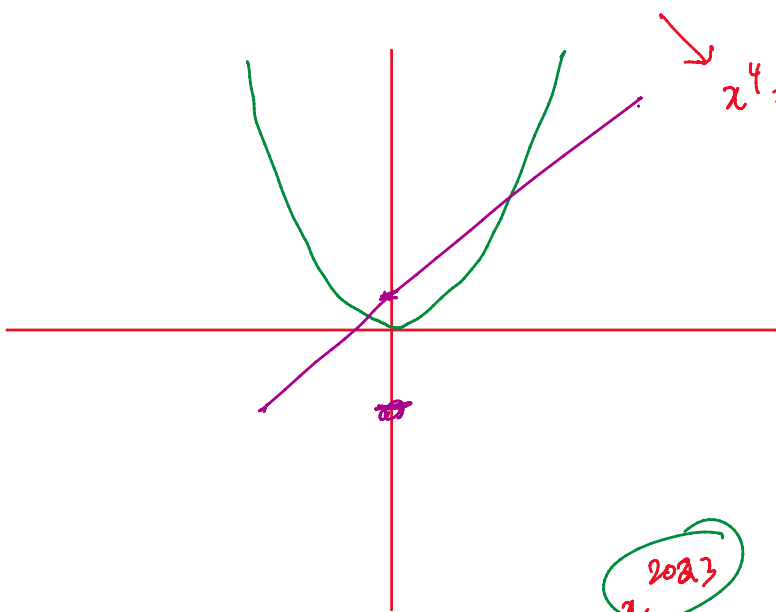
$$x^{a-a} = \frac{x^a}{x^a} = 1$$

$$x^{2023} = 2023$$

$$x = ?$$

$$x^4 - x - 1 = 0$$

How many real solutions exist?



$$x^4 = x + 1$$

$$ax^n + bx^{n-1} + \dots + kx + p = 0$$

$$(\quad) \in \overline{kx+p}$$

$$x^{2023} = 2023$$

$y$

$$y = x^{2022}$$

$$x = y^{\frac{1}{2023}}$$

$$y^y = 2023$$

$$y = 2023$$

$$x^y = 2023$$

$$\left(y^{\frac{1}{2023}}\right)^y = 2023$$

$$y^{\frac{y}{2023}} = 2023$$