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Math  
Number Theory

**Theorem:**

For any odd prime number exist a sum  $(x+y)$  so that  $(x-y)$  is also an odd prime number.

$x, y$  are Natural Numbers and  $x > y$ .

**Proof:**

Let  $a$  and  $b$  two odd prime numbers and  $a*b$  the product:

$$a b = \left( \frac{a+b}{2} + \frac{a-b}{2} \right) \left( \frac{a+b}{2} - \frac{a-b}{2} \right)$$

$\Rightarrow$

$$x = \frac{a+b}{2} \text{ and } y = \frac{a-b}{2}$$

**q.e.d.**

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