znaménko těchto pořadí

$$p\begin{pmatrix} 1 & 3 & 5 & 7 & \dots & 2n-1 \\ \cancel{2} & \cancel{4} & \cancel{6} & \cancel{8} & \dots & \cancel{2n} \end{pmatrix}, 2, 4, 6, 8, \dots, 2n$$

1	-	0
3	2	1
5	2, 4	2
7	2, 4, 6	3
2n - 1		n - 1

$$0+1+2+ \dots +(n-1) = \frac{n}{2}(n-1) =$$

$$sgn(p) = (-1)^{\frac{n}{2}(n-1)}$$

počet inverzí v poř.

$$\begin{pmatrix} 2 & 4 & 6 & 8 & \dots & 2n \\ 1 & 3 & 5 & 7 & \dots & 2n-1 \end{pmatrix}$$

2	1	
4	2	
6	3	
8	4	
2n	$\boxed{\frac{n}{2}}$	

$$1+2+3+4+\dots+\frac{n}{2} = \frac{n}{2}(n+1) - \sum_{i=1}^{n} \frac{n+i}{2}$$

$$= \cancel{\frac{n^2+n}{2} - \frac{n^2+\frac{n^2+n}{2}}{2} = \frac{2n^2+2n-2n^2-n}{4}} \cdot \boxed{\frac{n}{4}}$$

$$\cancel{\frac{\frac{2n^2+n}{2}}{2} - \frac{3n^2+n}{4}}$$

TĚČOVINA

počet inverzí v pořadí

$$\begin{pmatrix} 1 & 4 & 7 & \dots & 3n-2 \\ 2 & 5 & 8 & \dots & 3n-1 \\ 3 & 6 & 9 & \dots & 3n \end{pmatrix}$$

1 4 7 .. 2 5 8 .. 3n - 1 3 6 9 .. 3n

n				
1	1	0	1 2	0
2	4	2	2 5	1
3	7	4	3 8	2
4	10	6	3n-1	n-1
	3n-2	2(n-1)		

$Q[\sqrt{2}]$ ... inverzní prvek?

$Q[\sqrt{2}] = \{a + b\sqrt{2};\ a, b \in Q\}$

předpoklad:

$$(a + b\sqrt{2})^{-1} \overset{?}{=} \frac{1}{a + b\sqrt{2}} \cdot \frac{a - b\sqrt{2}}{a - b\sqrt{2}} = \frac{a - b\sqrt{2}}{a^2 + 2b^2} =$$

$$= \underbrace{\frac{a}{a^2 + 2b^2}}_{\in Q} + \underbrace{\left(\frac{-b}{a^2 + 2b^2}\right)}_{\in Q} \sqrt{2}$$ patří tam