

II ()

9

-4

7

6-7

5-6

4

2-3

1

0

1

$$(x^4 + 1)(y^4 + 1) = 4x^2y^2.$$

7

(1; 1), (-1; -1), (1; -1), (-1; 1).

$$4x^2y^2 = 0 \Leftrightarrow (x^4y^4 - 2x^2y^2 + 1) + (x^4 - 2x^2y^2 + y^4) = 0 \Leftrightarrow (x^2y^2 - 1)^2 + (x^2 - y^2)^2 = 0 \Leftrightarrow$$

$$\begin{cases} x^2y^2 = 1 \\ x^2 = y^2 \end{cases} \Leftrightarrow x = \pm y = 1$$

$$(x^4 + 1)/2 \geq x^2 \quad (y^4 + 1)/2 \geq y^2.$$

$$(x^4 + 1)(y^4 + 1) \geq 4x^2y^2, \quad x^4 = y^4 = 1.$$

2

$$AC \cdot AD/AM = BC \cdot BD/BM.$$

7

$$\triangle ADM \sim \triangle CBM \quad \triangle ACM \sim \triangle DBM, \quad AD : CB = DM : BM \quad AC : DB = AM : DM.$$

3

$$\frac{2}{1} \cdot \frac{4}{3} \cdot \frac{6}{5} \cdot \dots \cdot \frac{100}{99} > 10$$

7

$$A = \frac{2}{1} \cdot \frac{4}{3} \cdot \frac{6}{5} \cdot \dots \cdot \frac{100}{99}$$

$$B = \frac{3}{2} \cdot \frac{5}{4} \cdot \frac{7}{6} \cdot \dots \cdot \frac{99}{98}$$

, $B < A$ $AB = 100$.

$A^2 > AB = 100$,

$A > 10$.

4

,

11, 111, 1111, 11111,.....

7

1-

1 9, ...

1,
 $a=10n+1$ $a=10n+9$,

2-

4

1,

3.

4

1 (

$11+100n$

4

0,

$2n+1$),

,

5

5x9.

?

7

