

比较大小: 同底数, 不同指数

1. $\because y = 1.9^x$ 在 $(-\infty, +\infty)$ 上递增

$$-2 < -3$$

$$\therefore 1.9^{-2} < 1.9^{-3}$$

$$(3) 1.7^{0.3} > 1 = 1.7^0$$

$$0.9^{3.1} < 1 = 0.9^0$$

$$\therefore 1.7^{0.3} > 0.9^{3.1}$$

(4) $0.6^{0.4}$ $0.4^{0.6}$

$$\begin{array}{ccc} & \searrow & \nearrow \\ y = 0.6^x & & 0.6^{0.6} \end{array}$$

$$\Downarrow$$

$$0.6^{\frac{3}{5}} = \sqrt[5]{0.6^3}$$

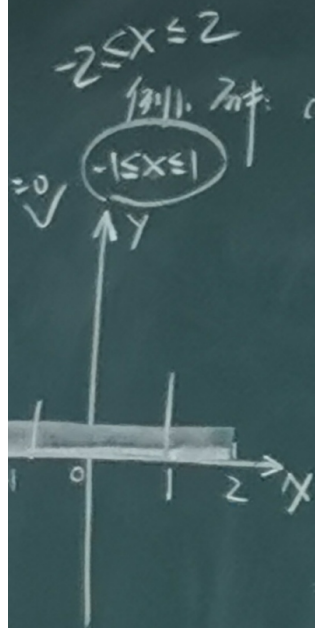
$$0.4^{\frac{3}{5}} = \sqrt[5]{0.4^3}$$

$$>$$

函数的奇偶性

① 定义域关于原点对称

奇 + 偶 = 非奇非偶



例1. 证: (1) $f(x) = x^3 + 2x$
 \therefore 定义域 \mathbb{R}

$$\begin{aligned} f(-x) &= -x^3 + 2x \\ &= -(x^3 - 2x) \\ &= -f(x) \end{aligned}$$

$\therefore f(x)$ 是奇函数

(2) $f(x) = x^4 - 2x^2$
 \therefore 定义域 \mathbb{R}

$$\begin{aligned} f(-x) &= x^4 - 2x^2 \\ &= f(x) \end{aligned}$$

$\therefore f(x)$ 是偶函数

(3) $f(x) = x^4 - 2x$
 \therefore 定义域 \mathbb{R}

$$\begin{aligned} f(-x) &= x^4 + 2x \\ \therefore f(-x) &\neq f(x) \\ f(-x) &\neq -f(x) \\ \therefore f(x) &\text{是非奇非偶函数} \end{aligned}$$