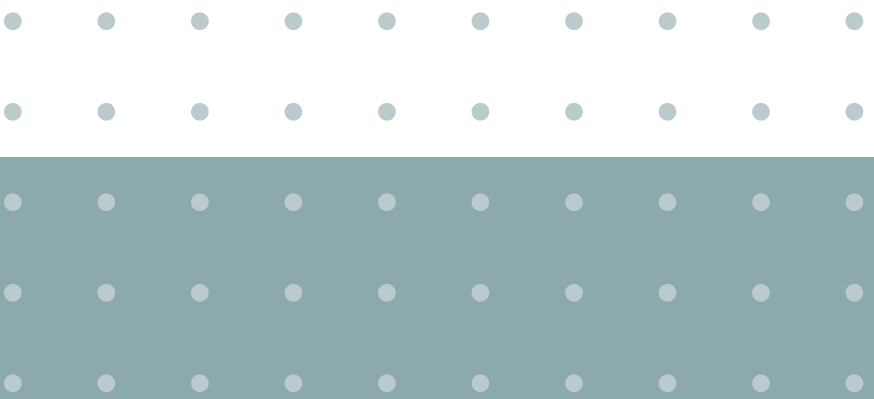




英數合鳴：談數字 的英語用法

國立陽明交通大學
外國語文學系
劉啟明 副教授





中文和英語的差異

思維模式不同

地址: 台灣屏東縣屏東市民生東路51號
No.51 Minsheng E. Rd, Pingtung city,
Pingtung county, Taiwan (ROC)

名字: 王大衛
David Wang





中文和英語的差異

- 中文和英語有很多結構上的差異:

the book [that John bought]
[約翰買的]書

I saw John [in a park].
我[在公園裡]看到約翰.
*我看到約翰[在公園裡].

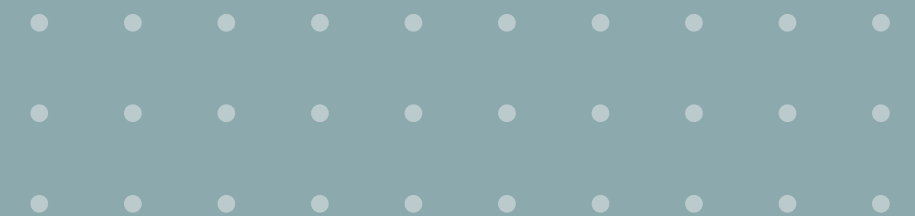
我看到約翰[在公園裡]跟陌生人下象棋.





英文的數字念法

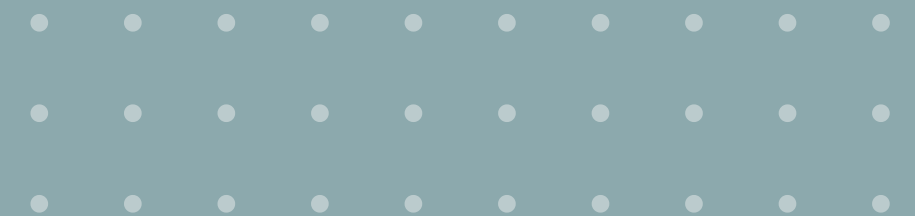
1. 10000(一萬)的英文是?
2. 200000(二十萬)的英文是?
3. 400000000(四千萬)的英文是?
4. 3000000000(三億)的英文是?
5. 50000000000000(五千億)的英文是?





英文的數字念法

- 1,000 is "one **thousand**"
千
- 1,000,000 is "one **million**"
百萬
- 1,000,000,000 is "one **billion**"
十億
- 1,000,000,000,000 is "one **trillion**"
兆





英文的數字念法

1. 百 (hundred)

2. 千 (thousand)

沒有 "萬": 兩萬 (**20**,000)= 20個“千”

沒有 "十萬": 二十萬 (**200**,000)=200個“千”

3. 百萬 (million)

沒有 "千萬": 兩千萬 (**20**,000,000)=20個“百萬”

沒有 "億": 兩億 (**200**,000,000)=200個“百萬”

4. 十億 (billion)

沒有 "百億": 兩百億 (**20**,000,000,000)= 20個“十億”

沒有 "千億": 兩千億 (**200**,000,000,000)= 200個“十億”



英文中的數字念法

1. How to say numbers in the hundreds?

350: three hundred fifty

425: four hundred twenty-five

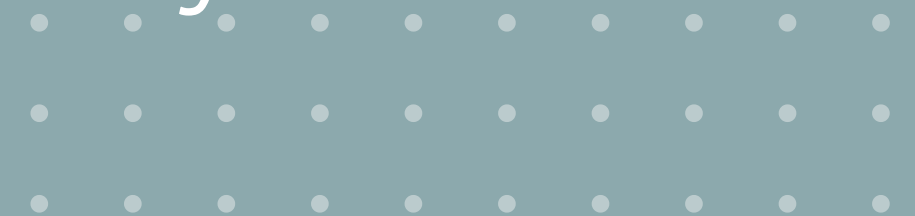
873: eight hundred seventy-three

2. How to say numbers in the thousands?

15,560: fifteen thousand five hundred sixty

786,450: seven hundred eighty-six thousand four hundred fifty

569,045: five hundred sixty-nine thousand forty-five



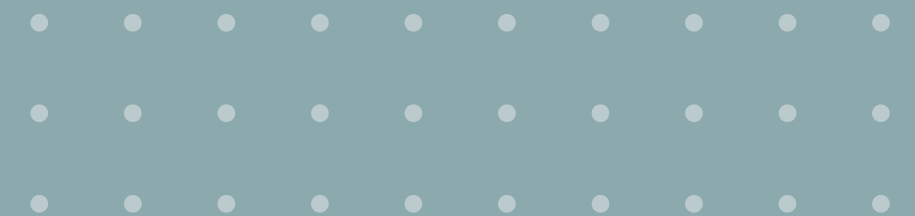


英文中的數字念法

Exercises:

- 2,500,000 → Two million five hundred thousand
- 15,400,000 → Fifteen million four hundred thousand
- 120,000,000,000 → One hundred twenty billion
- 5,600,000,000,000 → Five trillion six hundred billion

- 1** 12,000,000
- 2** 250,000,000
- 3** 4,500,000,000
- 4** 75,300,000,000





英文中的數字念法

- 1 Twelve million
 - 2 Two hundred fifty million
 - 3 Four billion five hundred million
 - 4 Seventy-five billion three hundred million
-
- ✓ No "and" in whole numbers
 - ✗ "One hundred and twenty million" (incorrect in American English)
 - ✓ "One hundred twenty million" (correct)
 - ✓ Use "point" for decimals
 - 1.5 million → "One point five million"
 - 3.75 billion → "Three point seven five billion"





英文中的數字念法

Exercise: I'll say a number in words, and you write the number.

- 1** sixty million
- 2** fifty-five thousand two hundred
- 3** three hundred million
- 4** twenty-three billion
- 5** One hundred sixty-five billion





英文中的數字念法

Answer:

- 1** 60,000,000 (六千萬)
- 2** 55200 (五萬五千兩百)
- 3** 300,000,000 (三億)
- 4** 230000000000 (兩百三十億)
- 5** 1650000000000 (一千六百五十億)





英文中的數字念法

Exercise: I'll say a number in words, and you write the number.

- 1** Eight billion sixty million
- 2** Three hundred fifty-six million
- 3** Three trillion thirty billion
- 4** Ninety-eight billion seven hundred million

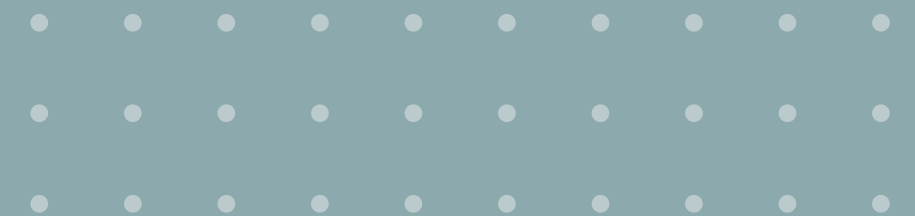




英文中的數字念法

Answer:

- 1** 8,060,000,000 – The world population in 2024.
- 2** 356,000,000 – The number of monthly active users on Twitter/X.
- 3** 3,030,000,000,000 – The total global GDP in US dollars.
- 4** 98,700,000,000 – The market value of Tesla, Inc.





英文中的數字念法

1. How to say numbers with decimals?

2.36: two point three six

14.82: fourteen point eight two

9.7841: nine point seven eight four one

2. How to talk about Fractions?

$1/4$, $3/4$: one-quarter, three quarters

$1/3$, $2/3$: one third, two-thirds

$1/2$: one-half

$5/16$: five-sixteenths

$7/8$: seven-eighths

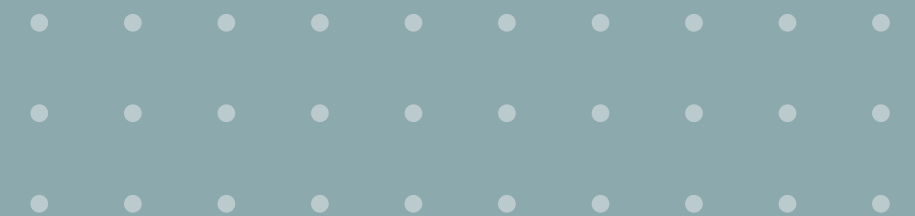




英文中的數字念法

1. How to say prices in English?

- \$10 = ten dollars
- \$45.30 = forty-five dollars and thirty cents
- \$1,500 = one thousand five hundred dollars or fifteen hundred dollars
- €72 = seventy-two euros
- 台幣兩百元=200 dollars?



英文中的數字念法

How to express scores in baseball games?

- "The Yankees beat the Red Sox 5 to 3."
- "The final score was 5-3 in favor of the Yankees."
- "The Dodgers defeated the Giants, 7 to 4."

比賽中:

- "After six innings, the Cubs lead the Cardinals 3 to 2."
- "It's the bottom of the eighth, and the score is tied at 5-5."
- "It's the top of the sixth, and the Dodgers lead 4 to 3."

大比分差比賽:

- "The Braves crushed the Marlins 10 to 1."
- "It was a dominant performance, as the Astros shut out the Rangers 9-0."



Math terminology

1. Addition: $1+1=2$

a. 1 plus 1 equals 2 (sum).

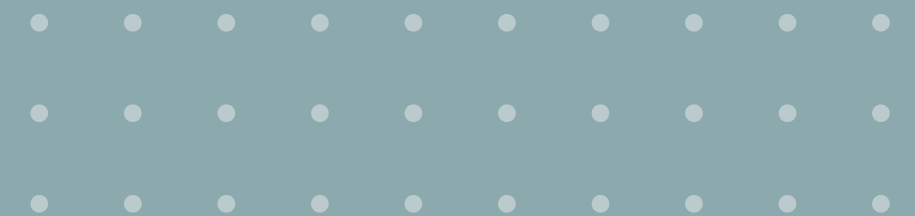
b. (The sum of) 1 and 1 is 2.

c. If you add 1 and 1, you get 2.

plus 是介系詞，不是動詞
equal 是動詞

$$2+3=5$$

$$45+70+152=267$$





Math terminology

2. Subtraction: $10-5=5$

- a. 10 minus 5 equals 5 (difference).
- b. 10 subtracting/deducting 5 gives you 5.
- c. If we subtract 5 from 10, we get 5.
- d. If we take 5 away from 10, we get 5/we are left with 5.

minus 是介系詞

subtract 和 deduct 是動詞





Math terminology

3. Multiplication: $3 \times 5 = 15$

- a. 3 times 5 equals 15 (product).
- b. 3 multiplied by 5 is 15.
- c. (X) 3 multiply/multiplies 5 is 15.

times 是介系詞

multiply 是動詞: 3(that is) multiplied by 5 is 15.

If you multiply 3 by 5, you get 15.



Math terminology

在關係子句中，如果動詞為過去分詞形式，可以省略關係代名詞及過去分詞前的be動詞

- a. The book (that was) bought by Mary was stolen.
- b. Laptops (that are) manufactured by Apple are solid.
- c. The apartment (that will be) built by ABC company will be very expensive.



Math terminology

4. Division: $9 \div 3 = 3$

- a. 9 divided by 3 equals 3 (quotient).
- b. 3 into 9 goes 3 times.
- c. (X) 9 divide 3 equals 3.

divide 是動詞

4a': 9 (that is) divided by 3 equals 3.

4c': If you divide 9 by 3, you get 3.

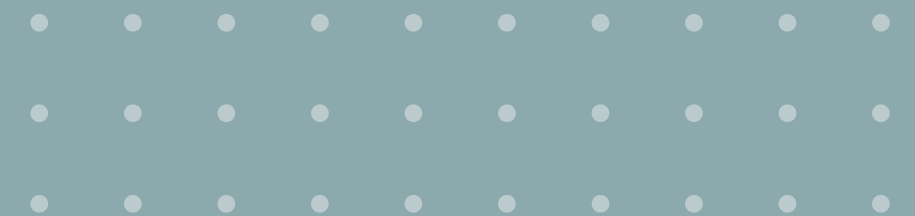




Math terminology

5. $(1+2) \times 3 = 9$

- a. One plus two in brackets times 3 equals 9.
- b. The sum of one and two multiplied by 3 is 9.
- c. One plus two, then multiplied by 3, equals 9.





英文中的數字念法

1. How to say exponents in English?

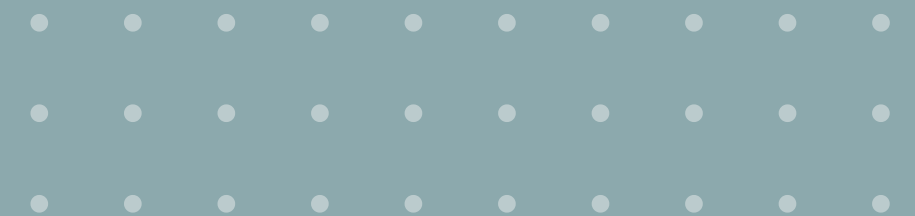
$$2^4 = 2 \times 2 \times 2 \times 2 = 16$$

"2 to the fourth(4th) power is 16" or

"2 raised to the power of 4 is 16."

5^4 : Five to the power of four

10^6 : 10 to the power of six





英文中的數字念法

- Square: Raising a number to the power of 2. For instance, 3^2 is read as "3 squared equals 9". (square是動詞)
- Cube: Raising a number to the power of 3. For example, 4^3 is read as "4 cubed equals 64". (cube是動詞)

Summary: Math Symbols & Equations



英文中的數字念法

Math Notation	How to Say It in English
x^2	"x squared"
x^3	"x cubed"
x^4	"x to the power of four"
$\sqrt{x}$	"The square root of x"
$x + y = 5$	"x plus y equals five"
$x - y = 2$	"x minus y equals two"
$x \times y = 10$	"x times y equals ten"
$x \div y = 4$	"x divided by y equals four"



英文中的數字念法

1. How to say ratio in English?

In a party, there are 75 men and 25 women.

3:1 (three to one)

“The ration of men to women in the party is three to one.”

2. There are 2 apples and 3 oranges. The ration is **2:3**.

3. The ration of children, teenagers and adults is **7:3:1**.





英文中的數字念法

1. How to talk about algebra in English?

a. Variable (變數): A symbol (usually a letter) that represents an unknown value.

"In the equation $x + 3 = 5$, x is the variable."

b. Constant (常數): A fixed value that does not change.

"In $2x + 5$, the number 5 is a constant."

c. Coefficient (係數): A number that multiplies a variable.

"In $3x$, the coefficient of x is 3."





英文中的數字念法

d. Expression (代數式): A mathematical phrase without an equal sign.
"2x + 7 is an algebraic expression."

e. Equation (方程式): A mathematical statement with an equal sign.
"2x + 3 = 7 is an equation."

f. Inequality (不等式): A statement using $>$, $<$, $\geq$, or $\leq$ instead of $=$.
"x + 5 > 10 is an inequality."

Example Conversation:

- "How do you solve the equation $2x + 3 = 7$?"
- "First, subtract 3 from both sides, then divide by 2."



英文中的數字念法

1. How to talk about functions in English?

a. Function (函數): A relation where each input has one output.

" $f(x) = 2x + 3$ is a function."

$f(x)$: f of x , or Function f of x

$f(x) = 2x + 3$: f of x equals two x plus three.

b. Domain (定義域): The set of all possible input values (x -values).

"The domain of $f(x) = \sqrt{x}$ is $x \geq 0$."

c. Range (值域): The set of all possible output values (y -values).

"The range of $f(x) = x^2$ is $y \geq 0$."





英文中的數字念法

d. Linear Function (線性函數): A function with a straight-line graph.

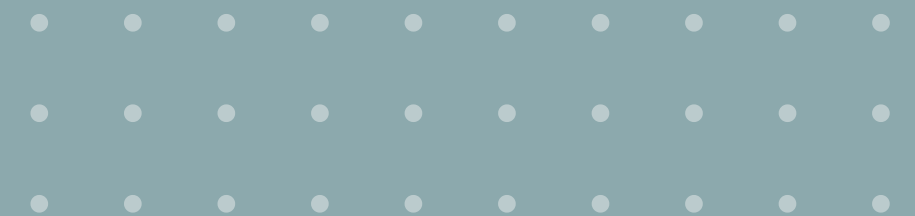
" $y = 2x + 1$ is a linear function."

e. Quadratic Function (二次函數): A function with a U-shaped graph (parabola).

" $y = x^2 - 4x + 3$ is a quadratic function."

f. Slope (斜率): The rate of change of a function.

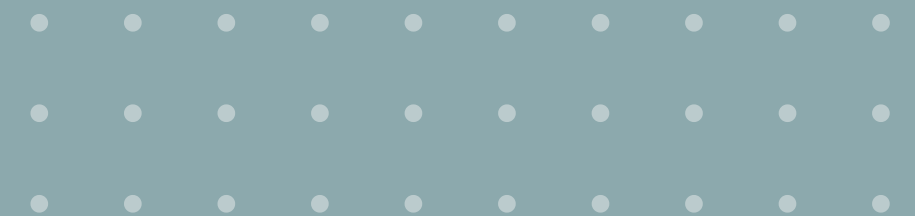
"The slope of $y = 3x + 2$ is 3."

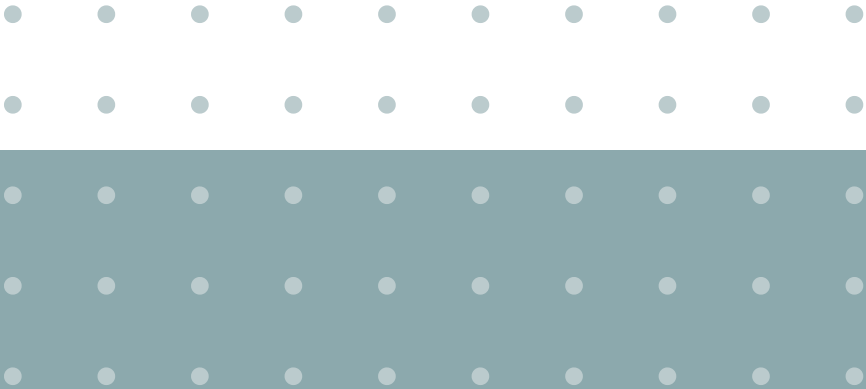




How to pronounce a term in English?

1. Google
2. youtube
3. chatGPT, Perplexity.....





THANK YOU

Chi-Ming Louis Liu
cmlouisliu@nycu.edu.tw

