

INTRODUCTIO

The purpose of this lecture is to lay the foundation for an understanding how to say the numbers and the mathematical operations in English. This implies that students will learn to write equations so easy (for example $5 + 9 = 14$, $x^2/y+z^2/Y=2$, so on), so this will develop the mathematical language (for example, add, subtract, times, divided, fraction, decimals, temperature, percentiles, and so on) for students.

3. READING OF NUMERALS AND SIMPLE EQUATIONS

(1) Numerals

100	One hundred (a hundred)	104	One oh four (a hundred and four, one hundred and four)
200	Two hundred	426	Four hundred and twenty-six (four hundred twenty six)
700	Seven hundred	2,085	Two thousand and eighty-five

532,868	Five hundred and thirty-two thousand, eight hundred and sixty-eight
4,253,167	Four million two hundred and fifty-three thousand, one hundred and sixty-seven

$7+5=12$	Seven plus five is (or equals) twelve
$7-5=2$	Seven minus five is (or equals) two
$7\times 5=35$	Seven times five is (or equals) thirty-five
	OR
	Seven multiplied by five is thirty-five
$10\div 2=5$	Ten divided by two equals five
$9\div 5=1.4$	Nine divided by five equals one remainder four

(2) Fractions

$\frac{1}{2}$	a half or one over two
$\frac{1}{4}$	a quarter; a fourth or one over four
$\frac{3}{4}$	three quarters; three fourths or three over four
$\frac{1}{3}$	a third or one over three
$\frac{3}{5}$	three fifths or three over five

$2\frac{1}{3}$	two and one over three
$7\frac{2}{9}$	seven and two over nine
$\sqrt{9}$	the square root of nine
\sqrt{x}	the square root of x
$\sqrt[3]{32}$	the cube root of thirty-two
$\sqrt[3]{x}$	the cube root of x
$\sqrt[4]{60}$	the fourth root of sixty
4^2	four squared
5^3	five cubed
6^4	six to the power of four
7^{-4}	seven to the minus four
x^{p-1}	x to the p minus one

(3) Decimals

0.5	zero point five OR nought point five (Use nought in arithmetical operations and decimals, but zero in reading temperatures).
0.05	zero point zero five OR nought point nought five.
0.501	zero point five zero one OR nought point five nought one OR nought/zero point five oh one.

Practice (**How to say zero**)

- The meeting is in Room 502 (five **oh** two).
- You need to take Bus 205 (two **oh** five).
- She was born in 1907 (nineteen **oh** seven).
- My telephone number is 07781 020 560 (**oh** double seven eight one **oh** two **oh** five six oh *OR* zero seven seven eight one zero two zero five six zero).
- The exact figure is (0.002) zero point zero zero two *OR* nought point nought nought two.



(4) Percentages

- 15% fifteen per cent
12.5 twelve point five per cent
100% a hundred per cent (one hundred per cent)

Practice

- 0.5% zero point five per cent *OR* nought point five per cent will make a difference.
- 0.75% zero point seventy five *OR* nought point seventy five won't make a lot of difference.

(5) Temperature

- 0 °C zero degree centigrade.
100 °C one hundred degrees centigrade.
-12 °C minus twelve degrees centigrade.

(6) Equations

$$r = \frac{R}{n} \quad \text{Little r equals big R over n.}$$

$$\frac{x}{X} + \frac{y}{Y} = \frac{z}{Z} \quad \text{Little x over big X, plus little y over big Y, equals little z over big Z.}$$

$$y = \frac{(a+b)}{3} \quad \text{y equals bracket a plus b bracket, all over three.}$$

$$x = 5(a + b) \quad \text{x equals five bracket a plus b bracket.}$$

Exercise

Read these aloud:

- | | | | |
|---------------------------|--------------------|---------------------------|--------------|
| (1) $12 - 4 = 8$ | (2) $16 + 13 = 29$ | (3) $y = a + \frac{b}{5}$ | |
| (4) 1,564 | (5) 7,689,362 | (6) $\frac{3}{7}$ | |
| (7) 345°C | (8) $\frac{1}{6}$ | (9) 9^{-6} | (10) 16.335% |