IV Číslovky a matematické termíny

a) **integers** [intidžəz] = integral numbers (celá čísla)

100	a (= one)	hundred
200	two	hundred
3,000	three	thousand
5,000,000	five	million
328	three hundred	**and** twenty-eight
4,005	four thousand	**and** five

(hundreds **of** people)
(millions **of** people)
six dozen [dazn] bottles (šest tuctů lahví)

£ 3	three pounds
£ 10.75	ten pounds and 75 pence
6 ft.	six feet
6 ft. 2 in.	six foot two inches
12 st.	twelve stone

b) 0 = [ou] (nula telefonního čísla)
= zero [ziərou] (nula na měřidlech nebo v rovnicích)
= nought [no:t] (v číslech)
= nil (ve sportu)

c) the first, the second, the third (1st, 2nd, 3rd)
the fourth
the fifth
the fortieth [fo:tiiθ]
the one hundredth
the two hundred and twenty fifth (225th)
5 January 1952
January 5, 1952
5th January, 1952
January 5th, 1952
(the fifth of January nineteen fifty-two)

d) + plus
— minus [mainəs]
× times, multiplied by
: divided by [di'vaidid]
= equals [i:kwəlz], is equal [i:kwəl] to

e) parentheses [pə'renθisi:z], round brackets
brackets, square brackets
braces [breisiz]

$a + \{2b + [c - (a + 3c)] - b\} =$

a plus open braces two *b* plus open brackets *c* minus open parentheses *a* plus three *c* close parentheses close brackets minus *b* close braces is equal to ...

f)

$a \in M$	*a* is an element of *M*
$M = \{2, 4, 6\}$	*M* is the set with the elements 2, 4, 6
$M = \varnothing$	*M* is an empty set (= a null set)
$A \subseteq B$	*A* is a subset of *B*
$A \subset B$	*A* is a proper subset of *B*
$A \cup B$	the union of *A* and *B*
$A \cap B$	the intersection of *A* and *B*
$A \times B$	the Cartesian [ka:'ti:žən] product (= the cross product) of *A* and *B*
$A \sim B$	*A* and *B* are equivalent [i'kwivələnt] to each other (*A* can be mapped on *B* biuniquely [ˌbaiju:'ni:kli])

g) **fractions**

6.89	six point eight nine
0.13	(nought) point one three
1/2	one half
3/2	three halves
2 1/2	two and a half
1/3	one third
2/3	two thirds
5/21	five over twenty-one
2 %	two per cent [pə'sent]

the percentage (*procento:* počet vyjádřený v procentech)

$$\frac{a}{b} \cdot \frac{c}{d} = \frac{ac}{bd}$$

a over *b*, this fraction multiplied by *c* over *d* equals *ac* over *bd*

h) **powers and roots** (mocniny a odmocniny)

b^n	*b* to the *n*-th power
	b to the *n*-th
	the *n*-th power of *b*

b to the power of n
b to the power n

a^{-2} a to the minus two power

b^2 the square of b, b square(d), the second power of b

b^3 the cube of b, b cubed, the third power of b

power exponent (mocnitel)

$\sqrt[n]{c}$ the n-th root of c

$\sqrt[2]{8}$ the square root of eight

index of a root (odmocnitel)

i the imaginary square root of minus one

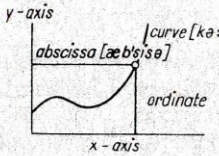
$\log_b c$ the logarithm [logəriθm] of c to the base b

ln natural logarithm, "l" "n"

i) elementary functions

$y = f(x)$ y equals f of x

x, y variables [veəriəblz]



graph of the function f with the general analytic expression $y = f(x)$ plotted in the rectangular system of co-ordinates

$y = \sum_{k=0}^{4} a_k x^k$ y equals the sum of a (sub) k, x to the power of k, taken from k equal to zero to k equal to four

sin x the sine [sain] of x

cos x the cosine of x

tan x the tangent [tændžənt] of x

j) intervals and limits

(a, b) open interval ab

[a, b] closed interval ab

(a, b] half-open interval ab

$X = (-\infty, +\infty)$ capital X equals the open interval minus infinite, plus infinite

$x \to x_0$ x approaches x nought, x tends to x nought

$\lim_{x \to x_1} f(x) = L$ the limit of f of x as x tends to x one is capital L

$\lim_{n \to \infty} a_n = 0$ the limit of a sub n is zero as n tends to infinity

k) differential calculus [kælkjuləs]

$f'(x) = \lim_{\Delta x \to 0} \frac{f(x + \Delta x) - f(x)}{\Delta x}$ f prime (= dash) of x is the limit of f of x plus delta x minus f of x over delta x as delta x tends to zero

$(\sin x)'$ the first derivative [di'rivətiv] of the sine of x

$\dot{s} = \frac{ds}{dt}$ s dot equals ds by dt

$\frac{dy}{dx}$ dy by dx

$\frac{d^2y}{dx^2}$ d two y by dx squared

$\frac{\partial z}{\partial x}$ ∂z partially [pa:šəli] by ∂x

l) integral calculus

$\int f(x)\,dx = F(x) + C$, $F'(x) = f(x)$ *if* the integral [intigrəl] of small f of x dx equals capital F of x, plus capital G, if capital F prime of x is equal to small f of x

$\lim_{\Delta x \to 0} \sum_{x_k=a}^{b-\Delta x} f(x_k)\,\Delta x$ the limit, for delta x tending to zero, of the sum of small f of x sub k delta x taken from x sub k equal to a to x sub k equal to b minus delta x

$= \int_a^b f(x)\,dx$ equals the integral from a to b of small f of x dx

$= [F(x)]_a^b$ equals capital F of x between the limits a and b

$= F(b) - F(a) = A$ equals capital F of b minus capital F of a equals capital A