MATHEMATICAL VOCALUBARY

- **Arithmetic** = **addition** [scitani], **subtraction** [odcitani], **multiplication** [nasobeni], **division** [deleni] **of numbers**
    - **Sum = total when added together** = soucet … *15 is the sum of 7 and 8*
    - **Product = result of multiplying numbers** … *15 is the product of 3 and 5*
    - **Multiples = numbers given by multiplying one number by others** = nasobky … *the numbers 8,12,16 and multiples of 4*
    - **Quotient = whole number result of a division**
        - **Remainder = any amount left** = zbytek
        - *when 7 is divided by 3, it gives a quotient of 2 and remainder of 1*
- **Sequence** = **a set of numbers that have a particular relationship =** řada, posloupnost
    - **Series = sequence = progression**
    - **Arithmetic progression** = aritmeticka posloupnost / **add or subtract the same number each time to get the next number**
    - **Geometric progression =** geometricka posloupnost **/ multiply or divide by the same number**
    - **Fibonacci series = result of adding together the two previous numbers**
- **Magic square = a square array of number in which the columns** [sloupec] **, rows** [radek] **and diagonals each add up to the same total**
- **Calculus =** pocet = **the use of algebra o calculate changing quantities** [mnozstvi, pocet]
    - **F. e. calculate the slope** [sklon] **of the line or the area under any part of a curve**
- **Probability = the degree of chance that something might happen**
- **Percentage = a fraction** [zlomek] **given as a number that you have to divide by 100**
- **Ratio =** pomer = **comparison between two numbers or amounts**
    - *The masses of two objects of 10 kilograms and 2 kg are in the ratio 5:1 (5 to 1)*
    - *Two amounts that vary are **proportional*** [umerny] *if they always have the same ratio*
- **Algebra = the use of letter to represent a quantities in calculations**
    - **Variables = can take any value, letters**
    - **Expression** = vyraz = **calculation using variables**
- **Equation =** rovnice **= a mathematical statement that two quantities or expressions are equal**
- **Trigonometry = the branch of mathematics that studies triangles** [trojuhelnik]
    - *A triangle has three sides and three angles where each pair of sides meets*
    - *…work out others using trigonometry*
    - *Trigonometrical ratio*
- **Angle = the space between two lines that meet or cross; amount of rotation needed to move one of the lines to the position of the other line; degrees or radians**
    - **0° = null or zero angle**
    - **90° = right angle, square corner**
    - **Less than 90° = acute angle**
    - **90° - 180° = obtuse angle**
    - **180° - 360° = reflex angle**

    - **360° = <u>round angle</u>**
    - **Solid angle …. Vertex**
- **<u>Degree</u> = a unit used to measure angles**
    - **<u>minutes</u>** … *degree divided into 60 minutes*
    - **<u>seconds</u>**
    - **<u>radion</u> = unit of angle**
- **<u>trigonometrical ratio</u> = the ratio of the lengths of two sides of a right-angled triangle**
    - **<u>hypotenuse</u> =** prepona … *side opposite of the right angle*
    - **<u>adjacent side</u> =** prilehla strana .. [(e)d(ž)eis(e)nt]
    - **<u>opposite side</u>** = protilehla strana
    - **<u>reciprocal</u> =** vzajemny, oboustranny
- **<u>Pythagorean theorem</u> = states that square of the length of the hypotenuse of a right-angled triangle is equal to the sum of the squares of the lengths of the other two sides**
    - *Pythagoras proposed that everything is governed by the relationships of numbers*
- **<u>Number</u> = how many things exist in any quantity of things**
    - **<u>Digit</u>** = cifra, cislice
    - **<u>Numeral</u>** = cislovka
    - **<u>Positive number</u>** = kladne cislo
    - **<u>Negative number</u>** = zaporne cislo
    - **<u>Integer</u>** = cele cislo
    - **<u>Prime number</u>** = prvocislo
    - **<u>Base</u>** = *number on which an entire number system is based*
- **<u>Binary number</u> = a number made of the digits 0 and 1**
    - **each digit has twice the value of the digit to its right**
- **<u>Decimal number</u> = a number made of the ten digits from 0 to 9**
    - *24.06 = two tens, four ones, no ten<u>ths</u>, six hundred<u>ths</u>*
    - **Each digit in a number has ten times the value of the digit to its right**
    - **<u>Decimal point</u>** = desetinna tecka
    - **<u>Decimal places</u> = digit after the dot =** desetinna mista
    - **<u>Recurring decimal</u> = has one or more digits that repeat for ever** = *0.66666* = perioda
    - **<u>Rounded number</u> =** zaokrouhlene cislo = **approximate number**
- **<u>Fraction</u>** = zlomek = **a number expressed as one number divided by another**
    - **<u>Numerator</u>** = citatel = **top number**
    - **<u>Denominator</u>** = jmenovatel = bottom number
    - **<u>Proper fraction</u> =** zlomek mensi nez 1 **= the numerator is less than the denominator**
    - **<u>Improper fraction</u> =** zlomek vetsi nez 1 **= the numerator is greater than the denominator**
    - **<u>Mixed number</u>** = **contains a whole number and a fraction ..** *2 ½*
- **<u>Rational number</u> = a whole number or fraction** … 126, -4, 24/88
    - **<u>Irrational number</u> = not equal to one integer divided by another, in decimal number the digits never stops** … the root of 2, 1,42213 ….
- **<u>Square</u> = number multiplied by itself**
    - **<u>Square root</u> =** druha odmocnina .. *the square root of 36 is 6*
- **<u>Cube</u> = a number multiplied by itself twice**
    - **<u>Cube root</u>** = treti odmocnina

- **Power = how many times a number is multiplied by itself**
  - *10 raised to the sixth power … 10^6*
  - **Index = exponent** = mocnitel
  - **Standart form = scientific notation** = *434 000 >>> 4,34 x 10^5*
- **Reciprocal = the result of dividing a number into 1 =** prevracena hodnota
  - **Upside down** = vzhuru nohama
- **Infinity** = **number that is too big to count; endless and cannot be measured** = nekonecno
  - **Infinitesimal** = nesmirne male

- **(straight) line** = primka
- **Algorithmical** = Algoritmus
- **Analysis** = analyza
- **Approximately** = priblizne
- **arc** = oblouk
- **area** = oblast, plocha
- **Argument** = argument
- **Assemblage** = soustava
- **Asymmetric** = asymetrický
- **Asymptote** = asymptota
- **axis** = osa
- **ball = sphere** = koule
- **Base =** baze
- **Bevel = skew** = sikmy
- **Block** = kostka, krychle
- **bound** = hranice
- **Braces = { and }**
- **Bracket = [and]**
- **cancellate** = kratit
- **Chain** = retezec
- **cipher** = cifra
- **circuit** = obvod
- **cone** = kuzel
- **cube** = krychle
- **curve** = kravika
- **Cut** = rez
- **Cylinder** = valec
- **Dashed line** = carkovana cara
- **decreasing** = klesajici
- **density** = hustota
- **disc** = kruh
- **dividend** = delenec
- **divisibility** = delitelnost
- **divisible** = delitelny
- **domain** = obor
- **Edge** = hrana
- **Exterior = extrinsic = outer** = vnejsi
- **extraction = root** = odmocnina
- **factorial** = factorial
- **finite** = konecny
- **fixed point** = pevny bod
- **Formula** = vzorec [fo:mjul(e)]
- **graph** = graf
- **Height** = vyska
- **hyperbola** = hyperbola
- **image** = obraz
- **increasing** = sotupajici
- **Interior = intrinsic =** vnitrni
- **inversion** = inverze
- **kraceni** = cancelling
- **kruznice** = circle
- **kvadr** = cuboid
- **Length** = delka
- **limita** = limit
- **logarithm** = logaritmus
- **Magnitude** = velicina
- **Make calcutaion** = pocitat
- **mathematics** = matematika
- **matrix** = matice
- **measurability** = meritelnost
- **Mid-point = centre** = stred
- **monomial** = jednoclen
- **odd integer** = liche cislo
- **oval** = oval
- **Parentheses = (and) … to carried out first**
- **path** = cesta

- **perpendicular** = **erect = orthogonal =** kolmy
- **Plane** = rovina
- **polygon** = mnohouhelnik
- **polynomial** = mnohoclen
- **power** = mocnina
- **principal** = hlavni
- **prism** = hranol
- **pyramid** = jehlan
- **quadrangular** = ztyruhelnik
- **Rectangle** = obdelnik
- **Result** = vysledek
- **rhomb** = kosoctverec
- **rhomboid** = kosodelnik
- **root** = koren
- **scale** = meritko
- **Segment (of line) = abscissa** = usecka
- **Solving** = reseni
- **Sparsity** = rozptyl
- **square** = ctverec
- **Table** = tabulka
- **Tangent** = tecna
- **term** = clen
- **Unit** = jednotka
- **unit** = jednotka
- **value** = hodnota
- **Vertex** = vrchol
- **volume** = objem
- **Weight** = vaha
- **Width** = sirka
- **Work out =** vypocitat

- **+** plus
- **-** minus
- **x** multiplied by
- **/** over, divided by
- **=** equals
- **≈** approximately, similar
- **≡** equivalent to, identical
- **≠** not equal to
- **>** greater than
- **<** less than
- **≥** greater than or equal to
- **≤** less than or equal to
- **≯** not greater than
- **≫** much greater than
- **⊥** perpendicular to
- **²** squared
- **³** cubed
- **⁴** to the fourth, to the power four
- **ⁿ** to the n, to the nth, to the power of n, to the nth power
- **√** root, square root
- **³√** cube root
- **⁴√** fourth root
- **!** factorial
- **%** percent
- **f(x), fx** function
- **f'(x)** derivative, f dash
- **f''(x)** second derivative, f double-dash
- **f'''(x)** third derivative, f triple-dash
- **∫ f(x)** integral .. the integral [from a to b] of x with respect to x
- **∑** sum … the sum from I equals 1 to n
- **→** leads to, approaches
- **(e)** belongs to, a member of, an element of
- Contained in, a proper subset of
- ∩ intersection
- **U** union
- ∀ for all
- **200** two hundred [without S]
- **10 000** ten thousand
- **1 000 000 000** billion
- **½** a half
- **¼** a quarter
- **¾** three quarters
- **1/5** a fifth
- **3/5** three fifths
- **0.01** nought point oh one
- **0.0001** nought point oh oh oh one
- **1.23** one point two here

- **2.66666666666…** two point sex recurring
- **2.5 million** two point five million
- **m/sex** meters per second
- **lim (x > 0) f(x)** the limit of function f as x approaches [tends to/goes] zero
- **$\log_e y$** log to the base e of y, log y to the base e
- **20 – 30** twenty to thirty
- **4×10^5** four times ten to the fifth/fifth power/ power of five
- **112/303** a hundred and twelve over three hundred and three
- **X_i** x sub i
- **X^i** x super i
- **X'** x prime
- **5^3** five cubed, five to the third power
- **$X^{1/n}$** the nth root of x
- **$X^{1/3}$** the cubed root of x
- **Binomial n over a**
- **x(y+z)** x times the sum of y plus z
- **(x+y)z** open [initial] parenthesis x plus y close [final] parenthesis multiplied by z
- **[x]** x in brackets
- **l z l** modulus of z, absolute value of z
- **½ {x [y (z-w)] }** one half times open brace x open bracket y plus open parenthesis z minus w close parenthesis close bracket close brace
- Vector x
- Matrix with the diagonal a sub one one to a sub three three
- **detA** determinant A
- **x ll y** x is parallel to y
- **3x + 2x = 5x** three x plus two x equals five x