

EXPLORING MATHEMATICAL FIGURATIVE LANGUAGE IN ENGLISH AND BULGARIAN

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Abstract. This article examines how mathematical concepts find their way into figurative language in English and Bulgarian. The aim is to identify and classify idiomatic expressions that use ideas such as numbers, operations, measurement, geometry, proportion, and abstract notions like probability or infinity. The data were gathered from dictionaries, corpora, and other reference sources, and grouped into thematic categories. The analysis shows that idioms with numbers are the most widespread, often with close parallels across the two languages, while others highlight cultural differences and unique linguistic creativity. Beyond numbers, idioms related to calculation, measurement, and shape illustrate how mathematical reasoning subtly shapes everyday speech and thought. The study provides both a structured overview of these expressions and a basis for further exploration of the links between mathematics, language, and culture.

Keywords: figurative language; idioms; cross-linguistic comparison; language and mathematics; cultural context

Introduction

Mathematics is everywhere around us, regardless of our jobs, education, or personal interests. We use it not only for simple calculations when shopping or for more complex sums when comparing interest rates before making a major purchase, such as buying a car. Mathematics is also embedded in the world of music, where rhythm, harmony, and tempo rely on numerical relationships – from the mathematical ratios in musical scales to the precise timing in a symphony. In art, mathematics reveals itself through the so-called golden ratio (approximately 1.618), a proportion long associated with balance and aesthetic beauty. This ratio can be seen in classical works such as Leonardo da Vinci's Vitruvian Man and The Last Supper, Botticelli's The Birth of Venus, and in the harmonious design of the

Parthenon in Athens. Mathematics also governs fields as diverse as architecture, engineering, navigation, astronomy, and even sports strategy, each relying on precise measurement, proportion, and calculation.

Mathematics, however, is not limited to numbers and formulas – it also finds a rich and sometimes unexpected presence in language. Figurative expressions often draw on mathematical concepts to convey meaning in vivid, memorable ways. This can be seen in idioms involving numbers (for example, *forty winks*, *once bitten, twice shy*), operations and calculations (such as *it doesn't add up*, *правя си сметката без кръчмаря*), measurements (*a hair's breadth*, *на една ръка разстояние*), and even geometric or spatial notions (*back to square one*, *въртя се в омагьосан кръг*). Some of these expressions have clear equivalents in both English and Bulgarian, while others are unique to one language, reflecting cultural attitudes, historical context, and linguistic creativity.

The aim of this article is to explore and classify such idioms, comparing English and Bulgarian examples. We have drawn on a range of printed and online idiom dictionaries, as well as corpora and reference works, to compile a collection of expressions that use mathematical concepts in figurative ways. The expressions have been grouped into categories such as numbers, mathematical operations, measurements, and other mathematical concepts, with attention to similarities and differences between the two languages. An appendix provides the list of idioms collected during this research; it is by no means exhaustive, as new expressions continue to emerge from different sources. Readers are welcome to contribute additional examples to help expand this work.

This article reflects our ongoing interest in the intersection between language and mathematics, and we expect it to grow as more expressions come to light.

Related Works

Several studies have examined the role of numbers in idiomatic expressions, offering perspectives that complement the present work.

The study *Exploring the Richness of English Idioms with Numbers* surveys a wide range of number-based idioms in English, grouping them by the numeral they contain and by theme (Koça, 2023). It also reflects on how numbers carry symbolic meanings in culture – for example, “three” often suggests completeness or stability, as in *third time lucky*. The author notes that such idioms are not only numerous but also embedded in everyday communication, making them a lively area for language exploration.

In *Idioms with Numbers*, the focus shifts to the semantic and pragmatic dimensions of these expressions (Pukaliak, 2018). Here, idioms are shown to move far beyond literal quantity, conveying humor, exaggeration, or social evaluation. Metaphor and metonymy often play a central role, with meanings grounded in shared cultural experience. For instance, to have two left feet illustrates how a

numerical phrase can vividly convey clumsiness without reference to any real measurement.

Ғaran offers a more detailed categorization of English idioms containing numbers, tracing their symbolic meanings, historical origins, and cross-linguistic parallels (Maға Ғaran, 2017). The work discusses, for example, how “seven” is associated with luck in many cultures, whereas “thirteen” is avoided as unlucky. It also argues for the pedagogical value of studying number idioms, noting that they can enrich learners’ vocabulary while fostering cultural awareness.

Together, these studies underline the variety and richness of idioms with numbers. They point out that while some expressions have near-identical equivalents across languages, others are rooted in specific cultural and historical contexts. This interplay between universality and uniqueness provides fertile ground for comparative analysis – an approach central to the present study.

Comparative Analysis of Idioms Containing Numbers

In the following section, we outline the various ways in which mathematical thinking is reflected in idiomatic expressions. The article provides a tentative classification of such expressions into several groups: idioms with numerals, expressions based on calculation and logical reasoning, and expressions related to measurement, proportion, or extremes.

The group of idioms with numerals is the largest and therefore presented first. We do not aim at a complete or exhaustive list; rather, the classifications and examples offered here serve as a framework that can be enriched with further data. This approach allows us to trace how similar meanings are expressed figuratively in both English and Bulgarian, while also identifying cases of partial correspondence or culturally specific usage.

The examples discussed in this section were collected from major monolingual and bilingual dictionaries of English and Bulgarian listed in the references.

Representation of Mathematics in Idioms with Numerals

ZERO

The number zero is closely associated with nothingness, absence, or the idea of beginning from scratch. In both English and Bulgarian, idioms with zero reflect a lack of value, a total loss, or a starting point. English idioms such as zero out refer to cancelling or reducing something to nothing, while zero hour denotes the moment when something begins – especially in a decisive or critical context (The Free Dictionary, n.d.). Zero in on emphasizes focus and precision, pointing to a target. Bulgarian, however, shows a much richer range of idioms highlighting social and personal states of insignificance: phrases like *пълна нула* (“a complete nobody”), *клоня към нула* (“close to zero”; meaning insignificant), or *нула внимание* (“zero attention”) are used to comment on worthlessness or total neglect (Institute for Bulgarian Language, n.d.).

Expressions such as *започвам от нулата* and *започвам от кога нула* correspond broadly to the idea of starting from scratch. The phrase *за нула време* (“in zero time”) is commonly used in Bulgarian to denote something happening very quickly, though English does not have a directly idiomatic equivalent. In sum, both languages strongly associate zero with absence or starting anew, but Bulgarian idioms with zero are more numerous and socially oriented, whereas English idioms also connect zero to focus (zero in on) or a decisive moment (zero hour).

ONE

The number one is naturally linked to the ideas of uniqueness, singularity, unity, and primacy. Idioms with one tend to express individuality or the notion of doing something alone, but they also capture unity of opinion or action. In English, one-off refers to something that happens only once, while one-trick pony denotes a person with only one ability. Bulgarian expresses similar ideas through combinations like *едно по едно* (“one thing after another”) or *един файтон хора* (“just a handful of people”), emphasizing small numbers or limited scope. Both languages use idioms with one to stress clumsiness or weakness: while English uses busy as a one-armed paper hanger or slip through one’s fingers, Bulgarian uses expressions like *едно голямо нищо* (“a big nothing”) to describe someone insignificant.

A second cluster relates to unity and cooperation. English expressions such as one man, one good turn deserves another, and one hand washes the other highlight collective effort and reciprocity. In Bulgarian, *един за всички, всички за един, нея в един глас* and *из едно гърло* similarly emphasize unity or full agreement. Both languages also use the number one in idioms that warn against taking risks or investing everything in a single option: all your eggs in one basket in English, and *залагам на една-единствена карта* in Bulgarian.

One also marks beginnings or a single decisive action: one fell swoop or one for the road in English, and *по първи петли* (“at first cockcrow”) or *първа ластовица* (“first swallow”) in Bulgarian. Finally, both languages embed moral and behavioral judgments in one-based idioms. English has look out for number one, which condemns selfishness, and one in the eye for someone, meaning a humiliating or ironic success. Bulgarian, in contrast, uses idioms such as *работя за едното браво* (working only for praise) or *едно ми е на сърцето, друго на устата* (“I say one thing, but feel another”), which reflect folk moral commentary. Overall, while both languages portray one as a symbol of unity or singular action, Bulgarian idioms are more colloquial and moralizing, whereas English tends to highlight individuality in either a positive or a critical sense.

TWO

The number two evokes duality, comparison, similarity, and contrast. English and Bulgarian idioms with two often reflect two-sidedness or the need to choose

between two options. In English, expressions such as two sides of the same coin, two-edged sword, and lesser of two evils point to ambiguity or conflicting consequences (UsingEnglish.com, n.d.). Bulgarian idioms like *монетата има две страни* and *нож с две остриета* carry the same meaning, while *два остри камъка брашно не мелят* (“two sharp stones do not grind flour”) highlights the inability of two harsh personalities to cooperate.

Both languages use the number two to indicate strong resemblance: like two peas in a pod in English and *като две капки вода* in Bulgarian both describe identical appearance or behavior (Slovoed, n.d.). Clumsiness and incompetence are also expressed through “two” in both languages: two left feet in English and *две леви ръце* in Bulgarian describe someone extremely awkward.

Idioms mentioning two also serve to highlight lack of money or value. Not have two pennies/nickels to rub together in English is comparable to Bulgarian *с две голи ръце* or *душа за две папи*, all referring to poverty or powerlessness. English uses two cents figuratively to mean an insignificant opinion, while Bulgarian retains *за две папи* to indicate something worthless.

Another interesting area of overlap is the use of “two” to indicate obviousness: put two and two together in English and *като две и две (четири)* in Bulgarian both mean arriving at an obvious conclusion. Bulgarian also uses *като две и две* as a synonym of plain inevitability. Meanwhile, English idioms like kill two birds with one stone highlight the accomplishment of two objectives with a single action. While Bulgarian has a direct equivalent (*с един куриум два заека*), it also possesses more culturally specific expressions referring to exploitation or gaining from two sources: idioms like *бозае от две майки* (“to benefit from two mothers”) or *дера по две кожи* (“to flay two skins”) focus on taking advantage or drawing double profit, with no close English equivalent.

Some idioms with two focus on indecision or acting between two positions. The English in two minds corresponds, albeit metaphorically, to the Bulgarian *между два стола, та на земята* (“between two chairs and down on the floor”), meaning a failure to commit may result in losing both opportunities. Finally, phrases like two-faced in English or *две думи на кръст не мога да кажа* in Bulgarian add additional nuance to deception and inability, once again highlighting how the concept of “two” invites comparison, hesitation, and duplicity.

In summary, idioms containing the numeral two show strong semantic parallels in English and Bulgarian: duality, obvious logic, similarity, clumsiness, and poverty are recurring themes in both languages. Bulgarian, however, exhibits a greater variety of expressions concerning double benefit and economic cunning, often rooted in folk wisdom, whereas English leans toward expressions of mutual responsibility (it takes two to tango) or moral duplicity (two-faced). These differences illustrate how shared conceptual metaphors are adapted to the cultural and social realities of each linguistic community.

THREE

The number three appears frequently in both English and Bulgarian idiomatic expressions, often carrying connotations of attempts, chaos, indulgence, and metaphorical structures. In English, expressions such as third time's the charm or third time lucky emphasize the likelihood of success on the third attempt, reflecting a cultural association of three with completion or favorable outcomes. Similarly, three strikes and you're out derives from baseball but is widely used metaphorically to denote the consequences of repeated mistakes.

Drunkenness or excess is another prominent theme: three sheets to the wind indicates extreme intoxication, while a three-martini lunch suggests indulgence and leisurely excess. Time limitation or brevity is reflected in three shakes of a lamb's tail, meaning very quickly, echoing the short-lived nature implied by the Bulgarian proverb *всяко чудо за три дни*, literally "every wonder lasts for only three days."

Chaos, confusion, or complexity is also represented in English through three-ring circus, describing a hectic or disorganized situation. Bulgarian expressions convey similar ideas: *Бермудски триъгълник* ("Bermuda Triangle") metaphorically designates a place where everything disappears, while *любовен триъгълник* (love triangle) and *триъгълник на властта* (triangle of power) describe emotionally or politically complex situations. Extended celebration or indulgence appears in Bulgarian as *три дни ям и пия* ("eat and drink for three days") or *три дена аху-иху, после тихо*, reflecting temporary chaos followed by calm.

Negative judgments, rejections, or curses also appear in expressions involving three. English includes queer as a three-dollar bill, denoting something obviously fake or suspicious. Bulgarian idioms such as *бъди трижди проклет* ("be thrice cursed"), *три пъти се отричам* ("I reject three times"), and *да го видиш, да бягаш от него три дни далеч* (he is so unpleasant you would run away for three days) similarly employ the number three to intensify moral or emotional force.

Other themes include similarity, repetition, or low evaluation, as in Bulgarian *три на релси* (a low grade) and *правя се на три и половина* (pretend ignorance). Hyperbolic or metaphorical imagery also occurs, such as *триста мечки под една хвойна* (depicting extreme cowardice) and *три дни път с камили* (extremely distant). Additionally, the metaphorical use of triangles is common in Bulgarian, appearing in love, politics, and danger zones (*триъгълник на смъртта*, "triangle of death").

Overall, while English idioms with three are relatively limited and tend to focus on attempts, indulgence, and consequences, Bulgarian idioms demonstrate a rich variety of uses, often embedding moral, political, or hyperbolic imagery into everyday language. Both languages, however, exploit the symbolic power of three to convey completeness, intensity, or structural relationships.

FOUR

The number four appears frequently in idiomatic expressions in both English and Bulgarian, often evoking vigilance, completeness, stability, and thoroughness. In English, expressions such as *four corners of the earth* or *scattered to the four winds* emphasize the spatial or global dimension, indicating total coverage or distribution. Similarly, *twenty-four seven* denotes continuous attention or activity, linking the numerical concept to completeness in time. The *fourth estate* metaphorically represents the press or media as a stabilizing and watchful societal institution, showing another facet of the symbolic power of four.

Vigilance and careful attention are dominant in Bulgarian expressions: *въртя си очите на четири* (“I turn my eyes to four”) and *гледам с четири очи* (“look with four eyes”) both convey careful observation and heightened awareness. Similarly, *очите ми светят на четири* or *ушите ми са на четири* suggest alertness, cleverness, or the ability to avoid deception. English has a corresponding expression with *four-eyes*, though this is more literal, referring to someone who wears glasses; the focus on perception, however, remains.

Physical completeness and stability are also reflected. English idioms like *four-square behind* imply full support or firmness, while Bulgarian phrases such as *разпъвам се на четири* or *разкъсвам се на четири* express exertion or effort distributed across all capacities, often to the point of exhaustion. Similarly, *на четири крака* or *заставам на четири крака* reflects starting from a foundational or humble position.

Seclusion and privacy appear in both languages as well. Bulgarian idioms *между четири очи* (“between four eyes”) and *между четири стени* (“within four walls”) describe confidential or closed situations, analogous to English *break the fourth wall*, which conceptually separates the observer from the observed, though in this case the separation is intentionally disrupted.

Temporal rarity or periodicity is highlighted in Bulgarian with *на четири години веднъж* (“once every four years”, e.g., February 29), illustrating infrequent occurrences, a theme less common in English idioms with four.

Overall, idioms involving four in both languages frequently denote thoroughness, vigilance, stability, and spatial or temporal completeness. While English expressions often convey broad, structural, or metaphorical dimensions – spanning the globe, time, or societal functions – Bulgarian idioms are more vivid in personal, physical, and immediate contexts, emphasizing alertness, effort, and careful attention.

FIVE

The number five often appears in idiomatic expressions with connotations of work, effort, value, and social interaction. In English, *nine to five* refers to a standard workday, usually monotonous and predictable, symbolizing routine labor. This contrasts with *five o'clock shadow*, which denotes a brief, visible consequence of

time passing (facial stubble after a day of work), subtly emphasizing the passage of time and personal upkeep. Similarly, *five-finger discount* metaphorically links the number five to illicit appropriation, specifically theft with one hand, showing a moral or social dimension associated with five. *Give me five* is the most positive of these idioms, symbolizing social bonding, congratulations, or mutual acknowledgment.

Bulgarian idioms involving five often highlight value, effort, or significance in personal, social, and temporal contexts. Expressions like *в дванадесет без пет* (“at five to twelve”, last minute) emphasize timing and urgency, while *вземам си петте пари* (“I take my five coins”) metaphorically denotes leaving or withdrawing oneself from a situation. Several idioms communicate worth or effectiveness: *за пет пари* (“for five coins”) indicates worthlessness or lack of importance, echoed in expressions like *не струвам пет пари* (“I’m worth nothing”) or *за пет пари работа* (“I can do nothing”). Conversely, *познавам като петте си пръста* (“I know like my five fingers”) conveys complete familiarity or mastery.

Social relationships and inclusion/exclusion are also common. English *give me five* conveys camaraderie, while Bulgarian *нето колело* or *петото колело на каруцата* metaphorically indicates a person who is unnecessary or marginalized. *Пета колона* (“fifth column”) conveys betrayal from within, highlighting the subversive or hidden potential associated with “five” in a social or political sense.

Physical effort and exertion are frequent in Bulgarian idioms, with *разпъвам се като пет пари в кесия* (“I spread myself like five coins in a purse”) or *вързан за петия си крак* (“tied by the fifth leg”) symbolizing limitation, awkwardness, or intense labor, echoing the English focus on work and productivity in *nine to five*. Temporal and fleeting significance is expressed with *пет минути слава* (“five minutes of fame”), paralleling the English notion of short-term attention or reward.

Overall, idioms involving five in both languages emphasize human activity, social interaction, value, and time. English expressions tend toward work-related, social, or ethical dimensions, while Bulgarian idioms are more vivid in personal, temporal, and evaluative contexts, highlighting effort, worth, and social positioning.

SIX

Idiomatic expressions with the number six in English often convey confusion, disarray, or danger. The expression *to be at sixes and sevens* describes a state of chaos or disorganization, a phrase also echoed by *all sixes*, which suggests that outcomes are all the same regardless of method. *Watch your six* is a contemporary idiom from military or aviation slang, meaning “watch your back”, where six refers to the six o’clock position on a clock face. Death and danger appear in *six feet under*, meaning someone is dead and buried. Rapid speech is captured by *talk nineteen to the dozen*, with “dozen” (twelve) only serving to emphasize speed – a possible extension of numerical exaggeration.

Bulgarian idioms with шест (six) carry far more positive connotations. *Всичко е на шест* (“everything is on six”) is a colloquial way to say that everything is perfect or wonderful. *Шестуца от тотото* means winning the jackpot – excellent luck – and *шесто чувство* corresponds to “sixth sense”, referring to intuition. Even when used negatively, such as *шеста глуха*, it only means being placed in a remote or unimportant place (“the sixth deaf corner”), with less sense of chaos or doom than in the English idioms.

Together, these examples show a contrast: English idioms with six often signal disorder or caution, whereas Bulgarian idioms tend to associate the number with success, orderliness, or extra perception.

SEVEN

English idioms containing seven typically convey extremes or elevated emotional states. *Seven sheets to the wind* describes someone extremely drunk, intensifying the idea present in *three sheets to the wind*. Positive emotional intensity appears in *to be in seventh heaven*, meaning to be overjoyed or blissfully happy, while *one over the eight* and numerically exaggerated phrases like *a million miles away* operate on similar symbolic grounds (Oxford Learner’s Dictionaries, n.d.). The number seven carries strong cultural associations with completeness and spirituality in English, and its idiomatic use reflects that symbolism.

Bulgarian, in contrast, draws on seven to express secrecy or moral upbringing. The idiom *запечатан със седем печата* (“sealed with seven seals”) refers to something kept as a complete secret or protected as sacred knowledge. *Лунсвам му първите седем години* literally means “he is missing his first seven years”, implying a person did not receive proper early upbringing and therefore lacks basic manners. This use of seven to signal moral foundation appears culturally rooted and does not register in English idiom use.

Thus, while both languages attribute special importance to the number seven, the semantic fields differ: in English, seven intensifies emotional states or degrees of intoxication, while in Bulgarian its function is moral, associated with secrecy or fundamental upbringing.

EIGHT

In English, idioms with eight are surprisingly rare. One expression, *one over the eight*, refers to someone who is slightly drunk, where “eight” figuratively represents a drinking limit, and “one over” signals excess. The scarcity of eight in English idioms may reflect less cultural significance for the number compared with six, seven, or nine.

In Bulgarian, the number eight appears more frequently and in diverse contexts. *Девет дена, осем часа* (“nine days, eight hours”) refers to something that takes an extremely long time. *Извъртявам на сто и осемдесет градуса* (“turn something

180 degrees”) expresses a complete change in opinion or situation, while *на осем очи* (“with eight eyes”) denotes a private meeting of four people, using the number metaphorically to indicate pairs of participants. In contrast with English, Bulgarian idioms with eight emphasize duration, transformation, or collaboration rather than excess or indulgence.

NINE

The number nine in English idioms conveys completeness, thoroughness, or excess. *Whole nine yards* signifies doing everything necessary or using all available resources, originating from the length of WWII ammunition belts. *Stitch in time saves nine* is proverbial advice, suggesting that early action prevents greater effort later. Other idioms include *bent as a nine-bob note*, which describes dishonesty, and *dressed to the nines*, meaning dressed very elegantly. Collectively, these idioms use nine to indicate either fullness, precision, or exaggeration.

Bulgarian idioms with *девет* (nine) often convey extremes, distance, or intensity. For example, *зад девет морета/планини* (“beyond nine seas/mountains”) indicates something very far away; *девети кръг на ада* (“the ninth circle of hell”) signals maximum suffering; *до деветото небе* (“up to the ninth heaven”) expresses extreme happiness. Other expressions, like *вързвам в девет възела* (“tie in nine knots”) or *донасям вода от девет кладенци* (“bring water from nine wells”), imply careful effort, thoroughness, or a complex process (Rechnik.info, n.d.). These idioms emphasize magnitude, effort, and intensity, in a way that overlaps conceptually with some English expressions but often with more vivid imagery.

In summary, nine functions in both languages to convey completeness, extremity, or thoroughness, but English idioms lean toward metaphorical and pragmatic meanings, while Bulgarian idioms often use vivid narrative imagery and exaggeration.

TEN and Above

In both Bulgarian and English, idioms with the number ten and above often convey precision, completeness, or the passage of time. For instance, Bulgarian expressions like *брой до десет* (“count to ten”) advise caution and patience, while *уцелвам право в десетката* (“hit the bullseye”) signifies achieving the most favorable outcome. Similarly, *на десетина крачки* refers to very close proximity, and *да ѝ десет да се откачиш* describes a persistent, troublesome person. In English, idioms such as *ten a penny* express commonness, while *wouldn't touch it with a ten-foot pole* warns against involvement.

As the numbers increase slightly, idioms often indicate critical timing or decisive action. Bulgarian *удари дванадесетият час* corresponds closely to English *at the eleventh hour*, both describing a last possible moment for making a decision or taking action.

When numbers grow even larger, idioms shift toward expressing abundance, rarity, or exaggeration. Bulgarian phrases like *едно от хиляда* or *веднъж на сто години* highlight something extremely rare, whereas *сто неща в главата* or *знали са ми триста дупки* emphasize overwhelming quantity or responsibility. English idioms similarly use numbers to indicate scale: the *million-dollar question* marks the most important or challenging question, and *twenty-four-seven* conveys uninterrupted, constant activity.

Very large numbers in idioms often carry metaphorical or hyperbolic weight. Bulgarian *приказки от хиляда и една нощ* evokes fanciful or empty stories, while *изгряя си с милиони* signals extraordinary wealth. English expressions like *million-dollar question* or *to the nth degree* intensify meaning, showing that numeric idioms provide a flexible and vivid way to communicate extremity, rarity, or completeness.

Overall, as the numbers grow from ten to hundreds, thousands, or even a million, idioms gradually move from ideas of precision and immediacy to magnitude, exaggeration, and rarity, reflecting the human tendency to use numbers metaphorically to structure our understanding of experience and scale.

Representation of Mathematics Beyond Numerals

Following the idioms with numerals, we turn to a smaller but conceptually diverse group of expressions in which mathematical thinking is reflected through operations, measurement, geometry, proportion, or abstract concepts. Unlike the large and frequent group of numeral-based idioms, these expressions are fewer, yet they reveal how deeply mathematical notions inform figurative language.

Mathematical Operations and Calculations

First, there are idioms reflecting **mathematical operations and calculations**, where addition, subtraction, division, or careful planning is invoked. Examples include expressions like “*правя си сметката без кръчмаря*” (making plans without accounting for all factors) or “*делим си хляба на две*” (sharing equally). These expressions often convey reasoning, fairness, or problem-solving in everyday contexts.

Measurement and Magnitude

Second, idioms related to **measurement and magnitude** employ units of length, volume, or weight to create vivid imagery. For instance, “*на една ръка разстояние*” (within arm’s reach) or “*меря си думите на кантар*” (weighing one’s words carefully) illustrate how physical measures are metaphorically extended to abstract or social situations.

Geometric Forms and Spatial Concepts

A third group involves **geometric forms and spatial concepts**, where lines, angles, points, or circles are used figuratively. Idioms such as “*да си прав като свец*” (standing upright or being honest) or “*събираме се на кръгла маса*” (gathering on equal terms) highlight notions of balance, orientation, and structure.

Ratios, Proportions, and Sets

Next, idioms expressing **ratios, proportions, and sets** convey comparisons, relative importance, or rarity. Expressions like “*едно към едно*” (exact match) or “*враг номер едно*” (the most important or dangerous adversary) use quantitative or hierarchical thinking to communicate qualitative judgments.

Abstract Mathematical Concepts: Logic, Probability, and Infinity

Finally, a smaller but significant category consists of **abstract mathematical concepts** such as logic, probability, and infinity. Phrases like “*до безкрайност*” (to infinity) or “*вероятността е едно към милион*” (one-in-a-million chance) show that figurative language can capture both extreme quantity and abstract reasoning, emphasizing that mathematical thinking extends beyond concrete calculation into imagination and evaluation.

Overall, these classifications demonstrate that mathematics is more than a numerical tool; it shapes metaphorical thinking across a spectrum of everyday concepts, from measurement and proportion to logic and probability. Even when these idioms are fewer in number, their presence underscores the subtle ways in which mathematical reasoning permeates language and culture.

Conclusions and summary

The analysis of the collected material shows that idioms with numerals constitute the largest and most frequently used group, often exhibiting close parallels between English and Bulgarian, though some expressions are culturally specific. Beyond numerals, other mathematical manifestations – operations, measurements, geometric forms, proportions, and abstract concepts such as probability or infinity – form smaller but conceptually rich categories. Together, these idioms demonstrate that mathematical thinking permeates figurative language, shaping how speakers express logic, balance, scale, and magnitude in everyday communication (Koça, 2023; Pukaliak, 2018; Maşa Taran, 2017). The widespread use and intuitive understanding of these expressions highlight that mathematics is not confined to formal calculation but also informs our conceptualization of the world. While this study does not provide a comprehensive inventory, it offers a structured framework that can guide further exploration of how mathematical ideas are reflected in language and culture.

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