

11+

# Complete Course

Book 1



AGE 8 - 11

- ✓ Prepared by experts
- ✓ Answers included
- ✓ Examples & practice papers included



## The Ultimate 11+ Preparation Course

The most comprehensive 11+ preparation course to boost your child's chances for a place at most of the selective Grammar and Independent Schools.

The course covers all major areas of the 11+ exam:

- ✓ English
- ✓ Maths
- ✓ Vocabulary
- ✓ Verbal Reasoning
- ✓ Non-verbal Reasoning
- ✓ Comprehension

This is a complete course to assist your child to build the skills required to prepare for 11+ exam. Your child can benefit from this course to:

- get a place at the most selective grammar schools.
- get a place at the most selective independent schools.
- get into top sets at your secondary school.
- increase your chance to qualify for important scholarships and bursary.

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# A Guide for Parents, Tutors, And Teachers

A year before your child's 11+ exam, you as a parent has an exciting challenge ahead. Don't worry, you are not alone, we have prepared a comprehensive 50-week course to give your child the best chance of success.

## **Plan and execute:**

Planning your work routine is the key to achieve better results in the exam. The course is designed for the child to complete each pdf document in a week. It is very important to sit down with your child and plan the week ahead, we would recommend allocating at least 60 minutes 3 to 4 times a week.

## **Avoid distractions:**

11+ exam requires a significant amount of preparation. To succeed in the exam, the preparation for the exam will need to a priority for both the child and parents. The course is designed to keep your child focused and rewarding them with a completion sticker after every challenge.

## **Set small and manageable goals:**

Set your child small and manageable goals to achieve highest results. We have divided this course into 50 pdfs, to help the child progress consistently over a period of 50 weeks. During the week, ensure your child spend a minimum of 60 – 90 minutes every day.

## **Get closely involved:**

Your direct involvement in the preparation with your child in this course is crucial. Those parents who are efficient, take an interest and help their child to organise their work, deliver better results. Engage with your child through this course to ensure your child performs to the best of their capability in the 11+ exam.

# Read, Read & Read

To improve your child's vocabulary to a sufficient standard, it is important for the child to read every day. We recommend that children 9 -12 years should be reading independently for at least 30 minutes daily. Children should aim to learn 2 – 5 new words every day and add them to their personal words list. This course comes with pre-designed personal words list form to help the children get started.

Another great way to encourage the children to read more, is for the parents to get involved in paired reading with them. Paired reading has been proven to work very effectively to improve a child's reading fluency, vocabulary, and spelling. In this course you will find reading sections where you can read with your child to boost their confidence.

## Helpful tips:

- Sit with your child when they read.
- The parent starts by reading the first paragraph at a normal speed and encourage the child to follow and read the second paragraph.
- When you engage in paired reading, try to make it fun for the child and take small breaks.
- This course comes with several short vocabulary tests to help you see your child's vocabulary grows as they progress.
- We have included a list of recommended ready books for year 9 – 12 years old.

# Recommended Books For 9 – 12 Years Old

Charlotte's Web E. B. White

Hatchet Gary Paulsen

The Lion, the Witch, and the Wardrobe C. S. Lewis

Bridge to Terabithia Katherine Paterson

Charlie and the Chocolate Factory Roald Dahl

A Wrinkle in Time Madeleine L'Engle

Shiloh Phyllis Reynolds Naylor

Matilda Roald Dahl

Tales of a Fourth Grade Nothing Judy Blume

Ramona Quim, Age 8 Beverly Cleary

The Trumpet of the Swan E. B. White

The Chronicles of Narnia C. S. Lewis

The Phantom Tollbooth Norton Juster

Tuck Everlasting Natalie Babbitt

Anne of Green Gables Lucy Maud Montgomery

The Great Gilly Hopkins Katherine Paterson

Little House books Laura Ingalls Wilder

Sideways Stories from Wayside School Louis Sachar

Harriet the Spy Louise Fitzhugh

A Light in the Attic Shel Silverstein

Mr. Popper's Penguins Richard Atwater

Walk Two Moons Sharon Creech

The Witch of Blackbird Pond Elizabeth George Speare

Island of the Blue Dolphins Scott O'Dell

Maniac Magee Jerry Spinelli

The BFG Roald Dahl

The Giver Lois Lowry

James and the Giant Peach Roald Dahl

Little House in the Big Woods Laura Ingalls Wilder

Roll of Thunder, Hear My Cry Mildred D. Taylor

Stone Fox John Reynolds Gardiner

Number the Stars Lois Lowry

Mrs. Frisby and the Rats of NIMH Robert C. O'Brien

The Best Christmas Pageant Ever Barbara Robinson

The Watsons Go to Birmingham-1963 Christopher Paul Curtis

Little House on the Prairie Laura Ingalls Wilder

The Secret Garden Frances Hodgson Burnett

The Boxcar Children Gertrude Chandler Warner

Sarah, Plain and Tall Patricia MacLachlan

The Indian in the Cupboard Lynne Reid Banks

My Father's Dragon Ruth Stiles Gannett

Stuart Little E. B. White

# Rewarding Your Child

It has been proven that rewarding the children for their efforts, improve their engagement and help them with their motivation.

1. Remember, your child will follow the working pattern that you establish. If you create a good plan and stick to it than your child will get into the habit and focus on to complete the course.
2. Use the screen time as a reward which they can only get by working hard and finishing the daily work assignment.
3. Make studying as fun as possible, don't be shy to encourage and praise their hard work.
4. The course includes a personal achievement section where the child can put a sticker every time, they achieve a goal such finishing a test.
5. You can decide to reward them once they achieve 5, 10, 15... stickers with a trip to cinema or their favourite desert place (every family is different).
6. In our experience, rewarding your child for small wins motivate them to do better.



# Frequently Asked Questions

**Do I have to pay any subscription fee?**

No, there is only one-time fee that you have already paid when purchasing this course.

**How long will it take my child to finish the course?**

We recommend that you finish each part of this course in a week without over-stressing your child. It's a 50-part course and it will take approximately 50 weeks.

**Can we finish the course faster than 50 weeks?**

Yes, you can allocate more time each week and finish the course early, but we highly recommend taking it slow, and allocating each part enough time to learn and practice.

**Will I need any additional material?**

No, this is all you need to prepare your child for 11+ exam apart from plenty of reading books. Our experts have worked very hard to prepare a well planned and structured course covering all major areas of 11+ exam.

**Is it important that the same person work with the child?**

We recommend that the child work with the same person throughout the course but it is not necessary. We often find that both parents like to get involved and it helps both parents to manage the time.

**I have a question, how can I contact you?**

Our experts have tried their best to design the course so you and your child can complete it without any issues. But if you still need help then you can contact us at [help@learoni.co.uk](mailto:help@learoni.co.uk)

**Do you provide feedback on my child's work?**

We offer a personalised feedback and review service. Which you can buy for the entire course or only for individual tests or papers. Please contact us at [feedback@learoni.co.uk](mailto:feedback@learoni.co.uk)

**What are the biggest mistakes, parents make in preparation?**

The feedback, we have received from parents suggests that there are 3 key mistakes which are very common:

- Rushing through the course: it is very important to allow your child to learn each section in the course thoroughly and don't skip any section even if it looks too easy.
- Lack of commitment: it is understandable if your motivation downgrades after a few weeks into the course. Afterall, it is a long course and will require huge effort form both child and parents to complete it. But try keeping it light and don't over-stress and taking small breaks can always help.
- Focusing more on tests then preparation: we can't stress enough on how important it is for your child to thoroughly learn a topic before attempting the test paper.

# The Alphabet

The alphabet is a set of letters used for writing a particular language, such as English, French, Spanish, and many others. The English alphabet, for example, consists of 26 letters, each of which represents a unique sound or combination of sounds in the English language.

The letters of the English alphabet are A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, and Z. These letters can be arranged in various ways to form words and sentences, which can then be used to communicate ideas and information.

The English alphabet is derived from the Latin alphabet, which in turn was based on the Greek alphabet. Over time, the English alphabet has undergone various changes and reforms, including the addition of new letters, such as J and V, and the removal of others, such as the Old English letters thorn (þ) and eth (ð).

Learning the alphabet is one of the fundamental building blocks of literacy, as it provides the basis for reading and writing. Children typically learn the alphabet in early childhood through songs, games, and other activities designed to help them recognize and remember the letters and their sounds.

## Synonyms

Amazing	Incredible
Anger	Enrage
Angry	Wrathful
Answer	Reply

Ask	Question
Awful	Dreadful
Bad	Depraved
Beautiful	Gorgeous
Begin	Start
Big	Enormous
Brave	Courageous
Break	Fracture
Bright	Sparkling
Calm	Quiet
Come	Approach
Cool	Chilly
Crooked	Bent
Cry	Weep
Cut	Slice
Dangerous	Perilous

# Synonyms Match-up

Below you will see words from the synonyms you have just learnt.

Match each word from the box below with its synonym in the list below.

Certain	Unimaginative	flavourful	Portray
Elaborate	Appreciate	Disagreement	Fake
Perilous	Execute	Ruin	Shadowy

1.	Definite	
2.	Delicious	
3.	Describe	
4.	Destroy	
5.	Difference	
6.	Do	
7.	Dull	
8.	Enjoy	
9.	Explain	
10.	FALSE	
11.	Dangerous	
12.	Dark	

# Commonly Misspelt Words

Say the word out loud, write it out five times while saying it aloud each time, then use the LOOK COVER WRITE CHECK method to learn them.

You MUST learn them.

Here are some commonly misspelled words:

1. Accommodation \_\_\_\_\_
2. Definitely \_\_\_\_\_
3. Embarrass \_\_\_\_\_
4. Necessary \_\_\_\_\_
5. Restaurant \_\_\_\_\_
6. Separate \_\_\_\_\_
7. Vacuum \_\_\_\_\_
8. Tomorrow \_\_\_\_\_
9. Beginning \_\_\_\_\_
10. Conscience \_\_\_\_\_
11. Calendar \_\_\_\_\_
12. Privilege \_\_\_\_\_
13. Maintenance \_\_\_\_\_
14. Entrepreneur \_\_\_\_\_
15. Manoeuvre \_\_\_\_\_

# 15 Commonly Misspelt Words

Remember to check each word and tick it if it is correct.

- You must do this as you go along, not at the end!
- Say the word out loud each time you write it.
- Write each word out 4 times, the more you write it out the better.

It's important to learn how to spell these words because mistakes are often made here. Challenge yourself to make a special effort to learn them thoroughly.

Look/Learn/Cover	Practice 1	Practice 2	Practice 3	Practice 4
Accommodation				
Definitely				
Embarrass				
Necessary				
Restaurant				
Separate				
Vacuum				
Tomorrow				
Beginning				
Conscience				

# Essential Spellings

Learn these words. Test yourself using the look, learn, cover, write, check method.

Look/Learn/Cover	Practice 1	Practice 2	Practice 3
Accommodate			
Embarrass			
Definitely			
Separate			
Necessary			
Conscience			
Liaison			
Privilege			
Maintenance			
Exaggerate			



Consistent practice breeds essential spellings.



# Practice – Essential Spellings

Choose from the words you have just learnt and use each a maximum of once to fill in the sentences below.



Tip: (You may need to use logic to get the right answer)

- I need to \_\_\_\_\_ **1** my travel plans to \_\_\_\_\_ **2** my friend's schedule.
- It's so \_\_\_\_\_ **3** to \_\_\_\_\_ **4** yourself in front of a large audience.
- \_\_\_\_\_ **5**, I will be attending the conference next month.
- Can you \_\_\_\_\_ **6** the blue and red socks in the laundry basket?
- Good nutrition is \_\_\_\_\_ **7** for a healthy lifestyle.
- Always listen to your \_\_\_\_\_ **8** and do what you know is right.
- The \_\_\_\_\_ **9** officer will be in \_\_\_\_\_ **10** with the local police department.
- It is a \_\_\_\_\_ **11** to be invited to the VIP lounge at the airport.
- The \_\_\_\_\_ **12** crew is responsible for the \_\_\_\_\_ **13** of the building.
- It's important not to \_\_\_\_\_ **14** the truth when giving a statement to the police.

# Words With More Than One Meaning

Homographs are words that are spelled the same but have different meanings and often different pronunciations. Here are some examples of homographs:

- Bow - can refer to a weapon used for shooting arrows, or a decorative knot tied with ribbon.
- Close - can mean nearby or to shut.
- Desert - can refer to a barren, dry land or to abandon or leave.
- Lead - can mean to guide or a heavy metal element.
- Row - can refer to a line of objects or to have an argument.
- Tear - can mean to rip apart or a drop of water from the eye.
- Wind - can refer to moving air or to turn or twist something.
- Minute - can mean a unit of time or extremely small.

Homographs can be confusing because they require careful attention to context to determine the intended meaning. In some cases, the pronunciation of the word can also help to clarify the meaning. It's important to be aware of homographs when reading and writing, to ensure that the correct meaning is being conveyed.

# Verbal Reasoning Terms You Should Know

ALTERNATE LETTERS:	<p>Every other letter –</p> <p>Examples:</p> <p>G I K M and Q S U - Note that one letter has been omitted between each pair.</p>
ANAGRAM:	<p>A new word formed by rearranging the letters of another word.</p> <p>Examples:</p> <p>Cat act part trap</p>
ANALOGY:	<p>A similarity between two things which may be quite different in other ways.</p> <p>Example:</p> <p>PIG is to PIGLET as DOG is to PUPPY</p> <p>Both PIGLET and PUPPY are the young of animals though quite different in Appearance and habits.</p>
COMPOUND WORD:	<p>A new word formed by joining two or more words together.</p> <p>Examples:</p> <p>Houseboat; pillowcase</p> <p>Co-pilot; go-cart (with hyphen)</p>

CONSECUTIVE LETTERS:	Coming in order without interruption. Examples: H I J K
CONSONANTS:	All the letters of the alphabet excluding the vowels (A E I O U)
INSERTED:	Put in Example: N inserted in the middle of PEAL makes PENAL
OMITTED:	Left out Example: If vowels are omitted from the alphabet, the letters would run: B C D F G H J and so on.
REVERSED ORDER:	Turned backwards. Example: Normal order: F G H I J Reversed order: J I H G F
VOWELS:	The letters A E I O U.

# Anagrams

The letters of a word are jumbled up so the word cannot be recognised. You must rearrange the letters to make a sensible word. To help you, you are given a clue as to what the word might be.

Solving anagrams can be a fun way to challenge yourself and improve your vocabulary and language skills. Here are some tips for solving anagrams:

1. Look for patterns: Look for common prefixes and suffixes, such as "un-" or "-tion." Also, pay attention to the length of the words.
2. Rearrange the letters: Write down all the letters in the word or phrase and then rearrange them to form different combinations. Use a pencil so that you can easily erase and rearrange letters.
3. Use a word solver: If you're stuck, you can use online anagram solvers, which are tools that can quickly generate all possible combinations of letters to find the correct solution.
4. Eliminate possibilities: If you have a list of possible words, start crossing out the ones that don't make sense or don't fit the context of the puzzle.
5. Practice: The more anagrams you try to solve, the better you'll get at it. Keep challenging yourself with new puzzles and eventually, you'll develop a knack for it.

Remember, solving anagrams can be a fun way to exercise your brain and improve your language skills, so don't be discouraged if you don't get it right away. With practice and persistence, you'll become a pro!

See the table below for anagrams and their solutions.

abet	beat	beta
abets	beast	beats
abut	tabu	tuba
acme	came	mace
acre	care	race
acres	cares	scare
actors	CoStar	castor
actress	casters	recasts
airmen	marine	remain

# Practice – Anagrams & Jumbled Letters

In these questions rearrange the letters in the word to make three new words.

Example:

**abets**

baste

beats

beast

1. **pintos**2. **tame**3. **merit**4. **ascot**5. **litres**6. **pools**7. **smile**8. **least**

9. plea

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10. share

--	--	--	--

11. glare

--	--	--	--

12. forest

--	--	--	--

13. stripe

--	--	--	--

14. ester

--	--	--	--

15. tensor

--	--	--	--



# Comprehension – The New Kid

There was a new kid in school, and everyone was talking about him. His name was Alex, and he had just moved to town with his family. Alex was shy and quiet, and he didn't seem to know anyone at school.

At first, no one knew what to make of Alex. He didn't talk much, and he kept to himself during recess. But as the days went on, some of the kids in class started to notice that Alex was cool.

Alex was good at math, and he always finished his homework before anyone else. He was also a great artist, and he would draw these amazing pictures during art class. Some of the kids even started to ask him for tips on how to draw better.

Despite all of this, there were still a few kids in class who didn't like Alex. They thought he was weird because he didn't talk much, and they didn't like the fact that he was so good at things. They started to make fun of him and exclude him from their games at recess.

This made Alex feel even more isolated, and he started to withdraw even more. He stopped bringing his drawings to school, and he would sit alone during lunchtime. It seemed like he was resigned to being an outcast.

One day, during recess, a group of kids were playing soccer. They had picked teams, and they were in the middle of a game when one of the kids got called back to class. This meant that they were short a player, and they needed someone else to join in.

One of the kids suggested that they ask Alex to play. The others were hesitant at first, but they eventually agreed. They went to find Alex, who was sitting on a bench by himself, and asked him if he wanted to play.

At first, Alex was hesitant. He wasn't very good at soccer, and he didn't want to embarrass himself in front of the other kids. But he decided to give it a try, and he joined in the game.

To everyone's surprise, Alex was actually pretty good. He wasn't the best player on the field, but he held his own. He passed the ball well, and he even scored a goal.

After the game, the other kids were amazed. They had no idea that Alex was such a good soccer player. They started to include him more in their games at recess, and they even invited him to sit with them during lunchtime.

Alex was still shy, but he started to open a little bit more. He would share his drawings with the other kids, and he would even tell jokes from time to time. It seemed like he had finally found a place where he belonged.

Over time, Alex became more and more comfortable at school. He made friends with some of the other kids in class, and he even started to participate more in class discussions. It was like he had finally found his voice.

The other kids in class were happy to have Alex as a friend. They realized that they had misjudged him, and they were amazed by all the things that he was good at. They started to see him as a valuable member of the class, rather than an outsider.

In the end, Alex proved to everyone that he was more than just the new kid. He was a talented artist, a skilled mathematician, and a pretty good soccer player. But most importantly, he was a good friend.



Analyse the story's message, character motivations, and lessons learned to formulate thoughtful answers to the reflection questions.

# Questions for Reflection

1. Who was the new kid in school?

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2. How did Alex act around other kids at first?

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3. What were some things that Alex was good at?

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4. Did all the kids in class like Alex? Why or why not?

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5. What did the kids do during recess when they were short a player for soccer?

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6. Was Alex a good soccer player?

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7. Did the other kids start to include Alex more after the soccer game? What did they do?

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8. Did Alex make any friends in class over time? How did he change?

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9. How did the other kids feel about Alex at the end of the story?

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10. What did the story teach you about making new friends and accepting others who may be different from you?

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# Animal Names with Double Letters

Here are some animals that have double letters in their name:

Alligator	
Bee-eater	
Chaffinch	
Eel	
Foxhound	
Grasshopper	
Hummingbird	
Jellyfish	
Kangaroo	
Llama	
Otter	
Parrot	
Raccoon	
Squirrel	

While the examples represent only a few animals with double letters in their names, there are numerous others that can be discovered through independent research. Please take the initiative to find and fill in the blank spaces accordingly.

## Plurals

Plurals are grammatical forms of words used to indicate that there is more than one of something. In English, most plurals are formed by adding "-s" or "-es" to the singular form of a noun (e.g., "book" becomes "books", "box" becomes "boxes", etc.). However, there are some irregular plurals that don't follow this pattern (e.g., "child" becomes "children", "goose" becomes "geese", etc.). The use of plurals is an important aspect of proper grammar and communication in the English language.

addendum	addenda or addendums
aircraft	aircraft
alumna	alumnae
alumnus	alumni
analysis	analyses
antenna	antennae or antennas
antithesis	antitheses
apex	apices or apexes
appendix	appendices or appendixes
axis	axes



Practice forming plural forms of words regularly to improve your understanding of essential plurals.

## Practice – Plurals

Below you will see words from the plurals you have just learnt.

Match each word from the box below with its plural in the list below.

Ferals	Shifts	Lovelies	Carpets
Fits	Desirables	Vendettas	Alcoholics
Electricals	Obscureness's	Sagaciousness	Brides
Crawls	Homeopathies	Photos	Zambonis
Chalks	Infusion	Lines	Knits

1.	electrical	
2.	fit	
3.	chalk	
4.	Crawl	
5.	feral	
6.	obscureness	

7.	desirable	
8.	infuse	
9.	homeopathy	
10.	shift	
11.	sagaciousness	
12.	vendetta	
13.	line	
14.	photo	
15.	lovely	
16.	bride	
17.	alcoholic	
18.	knit	
19.	Zamboni	
20.	carpet	



# Maths Vocabulary

Here are some math vocabulary words that are commonly used in mathematics:

<b>Addition -</b>	combining two or more numbers to get a sum.
<b>Subtraction -</b>	taking away one number from another to get a difference.
<b>Multiplication -</b>	the process of adding a number to itself a certain number of times.
<b>Division -</b>	the process of dividing a number into equal parts.
<b>Fraction -</b>	a number that represents a part of a whole, expressed as a ratio of two numbers.
<b>Decimal -</b>	a number expressed in a base 10 system, with a decimal point separating the whole number from the fractional part.
<b>Percent -</b>	a number that represents a proportion of 100.
<b>Equation -</b>	a mathematical statement that shows that two expressions are equal.
<b>Variable -</b>	a symbol or letter that represents a quantity that can change.
<b>Function -</b>	a relationship between two sets, where each input has a unique output.
<b>Area -</b>	the amount of space inside a two-dimensional figure
<b>Volume -</b>	the amount of space inside a three-dimensional object
<b>Ratio -</b>	a comparison of two quantities by division
<b>Mean -</b>	the average of a set of numbers.
<b>Median -</b>	the middle number in a set of numbers arranged in order.

Understanding these and other math vocabulary words is essential for effectively communicating mathematical concepts and solving problems.

# Maths Reasoning

Mathematical reasoning is the process of using logical and critical thinking skills to solve mathematical problems and make sense of mathematical concepts. It involves using mathematical language, symbols, and concepts to identify patterns, make connections, and draw conclusions.

Here are some examples of mathematical reasoning:

**Problem-solving:** Identifying a problem, breaking it down into smaller parts, and developing a plan to solve it.

**Deductive reasoning:** Using logical principles to draw conclusions from given premises or statements.

**Inductive reasoning:** Observing patterns or trends to generalize or predictions.

**Abductive reasoning:** Making an educated guess or hypothesis based on incomplete or limited information.

**Spatial reasoning:** The ability to visualize and manipulate objects in space, such as in geometry or trigonometry.

**Proportional reasoning:** Understanding how quantities are related to each other and using this understanding to solve problems involving proportions. ~

**Estimation:** Using mathematical knowledge and reasoning to make educated guesses or approximations when exact calculations are not necessary or possible.

**Mathematical modelling:** Using mathematical concepts and techniques to represent real-world situations and solve problems.

Developing strong mathematical reasoning skills is essential for success in mathematics and many other fields, as it helps individuals to think critically, analyse information, and make informed decisions.

# Mental Mathematics

Mental mathematics refers to the ability to perform arithmetic operations without the use of paper, pencil, or electronic devices. It involves using mental strategies and calculations to solve mathematical problems quickly and accurately.

Here are some tips for improving your mental math skills:

- Practice regularly:** Consistent practice can help you improve your mental math skills and build confidence.
- Break down problems:** Break larger problems into smaller, more manageable parts.
- Use number patterns:** Look for patterns in numbers that can help you solve problems more easily.
- Estimate:** Use rounding and estimation to quickly get an approximate answer to a problem.
- Use tricks and shortcuts:** Learn math tricks and shortcuts such as multiplication tables, divisibility rules, and mental addition and subtraction strategies.
- Visualize:** Use visualization techniques to mentally picture numbers and operations.
- Stay focused:** Concentration and focus are important when performing mental math calculations.
- Practice mental math games and exercises:** There are many fun and interactive games and exercises that can help you improve your mental math skills.

Developing strong mental math skills can not only make math easier and more enjoyable but can also be helpful in many everyday situations, such as when calculating tips, taxes, and discounts.

# Integers and Number Line Operations

Integers are a set of whole numbers that include positive numbers, negative numbers, and zero. They are essential in mathematics and are used to represent a wide range of real-life situations. Understanding integers and their operations is crucial for solving mathematical problems and making sense of the world around us.

The number line is a visual representation that helps us understand the order and relationships between different integers. It provides a clear visual representation of the positive and negative numbers and their positions relative to each other. The number line can be extended infinitely in both directions, allowing us to represent any integer.

Let's explore integers and number line operations in more detail:

1. **Integers:** Integers are represented by the set  $\{..., -3, -2, -1, 0, 1, 2, 3, ...\}$ . They include positive whole numbers (1, 2, 3, ...), negative whole numbers (-1, -2, -3, ...), and zero (0). Integers are used to represent quantities that involve direction, such as temperature changes, debts, and gains/losses.
2. **Number Line:** The number line is a horizontal line that represents the order and magnitude of integers. The line is divided into segments, with zero at the centre. To the right of zero, the numbers increase in value, representing positive integers, while to the left of zero, the numbers decrease in value, representing negative integers. The distance between consecutive integers is equal.
3. **Addition of Integers:** When adding integers, we consider the signs of the numbers. If the signs are the same, we add the absolute values and keep the sign. If the signs are different, we subtract the smaller absolute value from

the larger absolute value and use the sign of the number with the larger absolute value.

4. Subtraction of Integers: Subtraction of integers can be interpreted as adding the opposite. To subtract an integer, we add its opposite. Subtracting a positive number is equivalent to adding a negative number, and subtracting a negative number is equivalent to adding a positive number.
5. Multiplication of Integers: When multiplying integers, we consider the signs. If the signs are the same (both positive or both negative), the product is positive. If the signs are different, the product is negative.
6. Division of Integers: When dividing integers, we again consider the signs. The division of two integers with the same sign is positive, while the division of two integers with different signs is negative.
7. Order of Operations: When performing operations with integers, the order of operations (PEMDAS/BODMAS) must be followed. Parentheses/Brackets, Exponents/Orders, Multiplication/Division, and Addition/Subtraction are executed in order.
8. Absolute Value: The absolute value of an integer is its distance from zero on the number line. It is always a positive value or zero. The absolute value of a positive integer is the integer itself, while the absolute value of a negative integer is its opposite.
9. Comparing Integers: Integers can be compared using the less than ( $<$ ) and greater than ( $>$ ) symbols. When comparing integers, consider their positions on the number line. Positive integers are greater than negative integers, and larger positive integers are greater than smaller positive integers.

10. Opposite (Additive Inverse): The opposite of an integer is the number that, when added to the original integer, results in zero. For example, the opposite of 5 is -5, and the opposite of -3 is 3.

Understanding integers and their operations is crucial for solving various mathematical problems and real-life scenarios. It allows us to make sense of negative quantities, changes in direction, and relative magnitudes.

## Addition and Subtraction

In mathematics, addition and subtraction are fundamental arithmetic operations used to combine or separate quantities. Here are some key factors related to addition and subtraction:

### Addition:

1. Commutative Property: Addition follows the commutative property, which means that changing the order of the numbers being added does not change the result. For example,  $2 + 3$  is the same as  $3 + 2$ , and both equal 5.
2. Associative Property: Addition also follows the associative property, which means that the grouping of numbers being added does not affect the result. For example,  $(2 + 3) + 4$  is the same as  $2 + (3 + 4)$ , and both equal 9.
3. Identity Element: The identity element for addition is zero (0). Adding zero to any number does not change the value of that number. For example,  $5 + 0$  equals 5.
4. Sum: The result of an addition operation is called the sum.

### Subtraction:

1. **Difference:** Subtraction is the process of finding the difference between two numbers. The number being subtracted is called the subtrahend, and the number from which it is subtracted is called the minuend. The result is called the difference.
2. **Inverse Operation:** Subtraction is the inverse operation of addition. By subtracting a number, you can undo or reverse the effect of addition.
3. **Subtraction as Addition:** Subtraction can also be thought of as addition with the opposite or negative value. For example,  $5 - 3$  is equivalent to  $5 + (-3)$ .
4. **Subtraction with Borrowing:** In multi-digit subtraction, if the digit being subtracted is larger than the corresponding digit in the minuend, borrowing is required from the next higher place value.

It's important to note that addition and subtraction are interconnected operations, and mastering these operations is foundational for more advanced mathematical concepts. Additionally, these operations can be applied to various numerical systems, such as whole numbers, decimals, fractions, and even algebraic expressions.

## Practice – Addition and Subtraction

1. $37 + 24 =$	2. $841 + 926 =$	3. $651 + 783 =$	4. $678 + 934 =$
5. $156 + 278 =$	6. $925 + 843 =$	7. $472 + 896 =$	8. $725 + 976 =$
9. $543 + 789 =$	10. $747 + 958 =$	11. $835 + 726 =$	12. $864 + 927 =$
13. $896 + 432 =$	14. $689 + 847 =$	15. $628 + 741 =$	16. $793 + 965 =$
17. $721 + 599 =$	18. $734 + 925 =$	19. $579 + 893 =$	20. $836 + 924 =$
21. $287 + 456 =$	22. $916 + 738 =$	23. $842 + 639 =$	24. $869 + 987 =$
25. $954 + 621 =$	26. $573 + 936 =$	27. $953 + 872 =$	28. $752 + 936 =$
29. $837 + 498 =$	30. $824 + 967 =$	31. $726 + 619 =$	32. $693 + 947 =$
33. $672 + 835 =$	34. $759 + 864 =$	35. $847 + 956 =$	36. $765 + 983 =$
37. $428 + 579 =$	38. $625 + 784 =$	39. $521 + 674 =$	40. $798 + 926 =$
41. $953 + 768 =$	42. $842 + 936 =$	43. $768 + 597 =$	44. $852 + 974 =$
45. $648 + 927 =$	46. $964 + 847 =$	47. $683 + 895 =$	48. $763 + 958 =$
49. $347 + 582 =$	50. $836 + 957 =$	51. $932 + 749 =$	52. $876 + 925 =$
53. $821 + 396 =$	54. $742 + 985 =$	55. $568 + 927 =$	56. $793 + 967 =$
57. $534 + 625 =$	58. $869 + 736 =$	59. $781 + 894 =$	60. $837 + 985 =$
61. $469 + 874 =$	62. $592 + 869 =$	63. $694 + 837 =$	64. $758 + 937 =$
65. $756 + 639 =$	66. $753 + 945 =$	67. $725 + 958 =$	68. $792 + 964 =$
69. $623 + 547 =$	70. $678 + 953 =$	71. $836 + 947 =$	72. $853 + 987 =$
73. $485 + 792 =$	74. $859 + 928 =$	75. $572 + 945 =$	76. $746 + 965 =$
77. $918 + 753 =$	78. $927 + 863 =$	79. $638 + 794 =$	80. $869 + 936 =$
81. $763 + 645 =$	82. $768 + 925 =$	83. $879 + 536 =$	84. $783 + 958 =$
85. $573 + 924 =$	86. $692 + 879 =$	87. $942 + 875 =$	88. $827 + 976 =$
89. $812 + 597 =$	90. $745 + 983 =$	91. $726 + 834 =$	92. $869 + 984 =$
93. $349 + 836 =$	94. $836 + 972 =$	95. $653 + 749 =$	96. $796 + 945 =$
97. $928 + 416 =$	98. $789 + 845 =$	99. $859 + 946 =$	100. $832 + 987 =$



<b>1.</b> $87 - 39 =$	<b>2.</b> $8297 - 7936 =$	<b>3.</b> $3874 - 3529 =$	<b>4.</b> $12475 - 12118 =$
<b>5.</b> $165 - 73 =$	<b>6.</b> $8465 - 8112 =$	<b>7.</b> $4052 - 3726 =$	<b>8.</b> $12649 - 12284 =$
<b>9.</b> $248 - 126 =$	<b>10.</b> $8639 - 8274 =$	<b>11.</b> $4215 - 3892 =$	<b>12.</b> $12821 - 12463 =$
<b>13.</b> $394 - 217 =$	<b>14.</b> $8795 - 8452 =$	<b>15.</b> $4379 - 4021 =$	<b>16.</b> $12995 - 12639 =$
<b>17.</b> $512 - 364 =$	<b>18.</b> $8965 - 8612 =$	<b>19.</b> $4563 - 4209 =$	<b>20.</b> $13167 - 12812 =$
<b>21.</b> $657 - 421 =$	<b>22.</b> $9127 - 8789 =$	<b>23.</b> $4732 - 4395 =$	<b>24.</b> $13349 - 12974 =$
<b>25.</b> $782 - 589 =$	<b>26.</b> $9296 - 8941 =$	<b>27.</b> $4915 - 4567 =$	<b>28.</b> $13517 - 13136 =$
<b>29.</b> $946 - 627 =$	<b>30.</b> $9465 - 9102 =$	<b>31.</b> $5096 - 4765 =$	<b>32.</b> $13695 - 13319 =$
<b>33.</b> $1073 - 849 =$	<b>34.</b> $9612 - 9275 =$	<b>35.</b> $5279 - 4921 =$	<b>36.</b> $13867 - 13482 =$
<b>37.</b> $1256 - 992 =$	<b>38.</b> $9765 - 9418 =$	<b>39.</b> $5463 - 5117 =$	<b>40.</b> $14032 - 13647 =$
<b>41.</b> $1359 - 1083 =$	<b>42.</b> $9915 - 9563 =$	<b>43.</b> $5627 - 5284 =$	<b>44.</b> $14195 - 13827 =$
<b>45.</b> $1574 - 1296 =$	<b>46.</b> $10082 - 9715 =$	<b>47.</b> $5805 - 5476 =$	<b>48.</b> $14368 - 14014 =$
<b>49.</b> $1689 - 1375 =$	<b>50.</b> $10254 - 9876 =$	<b>51.</b> $5992 - 5648 =$	<b>52.</b> $14529 - 14172 =$
<b>53.</b> $1824 - 1497 =$	<b>54.</b> $10429 - 10063 =$	<b>55.</b> $6184 - 5832 =$	<b>56.</b> $14695 - 14312 =$
<b>57.</b> $1987 - 1625 =$	<b>58.</b> $10595 - 10248 =$	<b>59.</b> $6375 - 6018 =$	<b>60.</b> $14872 - 14508 =$
<b>61.</b> $2174 - 1832 =$	<b>62.</b> $10762 - 10413 =$	<b>63.</b> $6552 - 6207 =$	<b>64.</b> $15049 - 14682 =$
<b>65.</b> $2315 - 2012 =$	<b>66.</b> $10934 - 10569 =$	<b>67.</b> $6729 - 6384 =$	<b>68.</b> $15217 - 14835 =$
<b>69.</b> $2496 - 2198 =$	<b>70.</b> $11102 - 10723 =$	<b>71.</b> $6897 - 6542 =$	<b>72.</b> $15389 - 15024 =$
<b>73.</b> $2674 - 2346 =$	<b>74.</b> $11275 - 10908 =$	<b>75.</b> $7065 - 6719 =$	<b>76.</b> $15565 - 15189 =$
<b>77.</b> $2856 - 2528 =$	<b>78.</b> $11452 - 11106 =$	<b>79.</b> $7248 - 6889 =$	<b>80.</b> $15732 - 15356 =$
<b>81.</b> $3012 - 2703 =$	<b>82.</b> $11629 - 11274 =$	<b>83.</b> $7415 - 7056 =$	<b>84.</b> $15905 - 15538 =$
<b>85.</b> $3185 - 2863 =$	<b>86.</b> $11795 - 11428 =$	<b>87.</b> $7592 - 7236 =$	<b>88.</b> $16079 - 15702 =$
<b>89.</b> $3348 - 3017 =$	<b>90.</b> $11967 - 11602 =$	<b>91.</b> $7765 - 7412 =$	<b>92.</b> $16245 - 15879 =$
<b>93.</b> $3521 - 3205 =$	<b>94.</b> $12135 - 11769 =$	<b>95.</b> $7938 - 7581 =$	<b>96.</b> $16412 - 16036 =$
<b>97.</b> $3698 - 3362 =$	<b>98.</b> $12302 - 11947 =$	<b>99.</b> $8125 - 7769 =$	<b>100.</b> $16589 - 16204 =$

# Non-Verbal Reasoning

Non-verbal reasoning is the process of solving problems and making decisions using visual and spatial information, rather than language. It involves analysing and manipulating shapes, patterns, and images to draw conclusions and solve problems.

Non-verbal reasoning skills are important in many areas, including mathematics, science, engineering, and art. They are also often tested in assessments for academic and professional purposes, such as in entrance exams, aptitude tests, and employment selection processes.

To improve your non-verbal reasoning skills, it is important to practice regularly and become familiar with the types of questions that are commonly asked. This can involve working through practice tests, puzzles, and games that challenge your ability to think spatially and logically.

Some common types of non-verbal reasoning questions include pattern completion, analogies, series completion, and spatial reasoning. These types of questions often involve identifying relationships between shapes or images, recognizing patterns and symmetries, and visualizing how objects can be manipulated or transformed.

Overall, developing strong non-verbal reasoning skills can help you think more critically, solve problems more effectively, and succeed in a wide range of academic and professional settings.



Regularly practice non-verbal reasoning exercises to improve your skills in visual problem-solving and pattern recognition.

Choose the alternative which closely resembles the mirror image of the given combination.

1.

ANS56HI

IHδ22NA

IH9SSNA

IHδ88NA

AH229HI

A

B

C

D

Choose the alternative which closely resembles the mirror image of the given combination.

2.

TENT11011

11011TET

1EHT11011

11011TENT

TENT11011

A

B

C

D

Choose the alternative which closely resembles the mirror image of the given combination.

3.

1971IND

IND1971

1971IND

IND1971

IND1971

A

B

C

D

Choose the alternative which closely resembles the mirror image of the given combination.

4.

MALAYSIA	AI2YAJAM	MALAYSIA	AI2YAJAM	AI2YAMAJ
	A	B	C	D

Choose the alternative which closely resembles the mirror image of the given combination.

5.

FERRARI	FERRARI	FERRARI	FERRARI	-OOLFER
	A	B	C	D

Choose the alternative which closely resembles the mirror image of the given combination.

6.

UTXZYK	UTXZYK	UTXZYK	UTXZYK	UTXZYK
	A	B	C	D

Choose the alternative which closely resembles the mirror image of the given combination.

7.

ANMG3	MƏSMIA	ANMG3	ANMG3	ANMG3
	A	B	C	D

Choose the alternative which closely resembles the mirror image of the given combination.

8.

SUPERP	2NƏBb	SUPERP	SUPERP	ERPBUB
	A	B	C	D

Choose the alternative which closely resembles the mirror image of the given combination.

9.

MAGNET	MAGNET	MAGNET	MAGNET	MAGNET
	A	B	C	D

Choose the alternative which closely resembles the mirror image of the given combination.

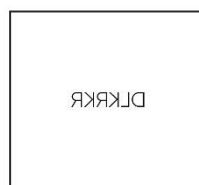
10.



A



B



C



D

PREVIEW

# Answers

Not included in the preview

PREVIEW

Congratulations on finishing this book!  
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