

the great courses the secrets of mental math

The Great Courses: The Secrets of Mental Math is an innovative and engaging course designed to unlock the hidden potential of your mind when it comes to numbers. In an age where calculators and computers dominate our daily calculations, the art of mental math has been somewhat neglected. However, this course serves as a reminder that mental arithmetic can be both practical and enjoyable. By equipping students with techniques to perform calculations quickly and accurately in their heads, it aims to foster a deeper understanding of numbers and enhance cognitive abilities.

Overview of the Course

The Secrets of Mental Math course is part of The Great Courses series, which is well-known for its high-quality educational content. This particular course is taught by Dr. Arthur Benjamin, a mathematician and magician renowned for his expertise in mental calculations. Dr. Benjamin combines his passion for mathematics with captivating teaching methods to make learning fun and engaging.

The course consists of 24 lectures, each lasting approximately 30 minutes. Through these lectures, students will learn various strategies and techniques for performing mental calculations with ease.

Course Structure

The course is divided into several key topics, including:

1. Basic Principles of Mental Math: Understanding the importance of mental math and the foundational principles behind it.
2. Addition and Subtraction: Techniques for quick addition and subtraction, including methods to simplify calculations.
3. Multiplication: Strategies for multiplying numbers quickly, including the use of distributive properties and visual patterns.
4. Division: Efficient techniques for dividing numbers mentally, including estimation and rounding.
5. Advanced Techniques: Exploring advanced topics such as calculating squares, square roots, and working with percentages.
6. Real-World Applications: Applying mental math techniques to everyday situations, like shopping or calculating tips.

Key Techniques Covered in the Course

Throughout the course, Dr. Benjamin introduces various techniques that students can employ to improve their mental math skills. Here are some of the key techniques covered:

1. Chunking

Chunking is a technique that involves breaking down complex numbers into smaller, more manageable parts. For example, to add 47 and 36, a student might break the numbers into chunks:

- $40 + 30 = 70$
- $7 + 6 = 13$
- $70 + 13 = 83$

This method simplifies calculations and makes it easier to arrive at the correct answer.

2. The Distributive Property

The distributive property is a powerful tool that allows students to break apart numbers to make multiplication easier. For instance, to calculate 23×7 , students can use:

- $23 = 20 + 3$
- Therefore, $23 \times 7 = (20 \times 7) + (3 \times 7) = 140 + 21 = 161$

This approach not only aids in mental calculations but also deepens one's understanding of multiplication.

3. Estimation

Estimation is a crucial skill in mental math. It allows individuals to quickly assess the reasonableness of answers. For example, when calculating 198×47 , a student might round 198 to 200 and 47 to 50, resulting in an estimate of 10,000. This can help verify more complex calculations and provide a quick check.

4. Patterns and Tricks

Recognizing patterns can significantly reduce the time it takes to perform calculations. Dr. Benjamin shares various tricks, such as:

- Multiplying by 9: To multiply a number by 9, simply multiply it by 10 and subtract the original number. For example, $7 \times 9 = 70 - 7 = 63$.

- Squaring Numbers Ending in 5: To square a two-digit number ending in 5, multiply the first digit by itself plus one, and append 25. For example, $25^2 = 2 \times (2+1) = 6$, followed by 25, gives 625.

Benefits of Learning Mental Math

The Secrets of Mental Math offers several benefits for learners of all ages. Here are some of the key advantages:

1. Improved Cognitive Skills

Practicing mental math enhances various cognitive skills, including memory, concentration, and problem-solving abilities. By engaging in regular mental calculations, individuals can sharpen their minds and improve overall cognitive function.

2. Boosted Confidence

Many people struggle with mathematics and often feel intimidated by numbers. The techniques taught in this course empower students to tackle mathematical problems with confidence. Mastery of mental math can lead to a newfound belief in one's abilities, both academically and in everyday life.

3. Practical Applications

Mental math is a practical skill that can be applied in numerous real-world situations, such as:

- Calculating tips at restaurants
- Estimating grocery bills
- Planning budgets
- Evaluating sales prices

Being proficient in mental math can save time and enhance decision-making skills.

4. Fun and Engaging Learning Experience

The course's entertaining delivery, featuring Dr. Benjamin's charm and enthusiasm, makes learning enjoyable. The blend of magic and mathematics captures the audience's attention, ensuring that students remain engaged throughout their learning journey.

Who Can Benefit from This Course?

The Secrets of Mental Math is designed for a wide range of audiences, making it accessible to various learners. Here are some groups who can particularly benefit from the course:

1. Students

Students of all ages can benefit from mastering mental math. Whether they are in elementary school or high school, these skills can enhance their academic performance and prepare them for standardized tests.

2. Professionals

Many professions require quick calculations or estimations, such as sales, finance, and engineering. Professionals who enhance their mental math skills can improve efficiency and decision-making in their work.

3. Parents and Educators

Parents and educators can use the techniques from this course to help children develop a positive attitude toward mathematics. By sharing these engaging strategies, they can make learning math a fun and interactive experience.

Conclusion

The Great Courses: The Secrets of Mental Math is an exceptional resource for anyone looking to improve their mathematical skills and cognitive abilities. Through engaging lectures and practical techniques, Dr. Arthur Benjamin provides students with the tools they need to tackle numbers with confidence and ease. By mastering mental math, individuals can experience numerous benefits, from improved cognitive function to practical applications in everyday life. Whether you are a student, a professional, or simply someone who wants to enhance their mental agility, this course is an invaluable investment in your personal development. Embrace the power of mental math and unlock your potential today!

Frequently Asked Questions

What is 'The Great Courses: The Secrets of Mental Math' about?

'The Secrets of Mental Math' is a course that teaches techniques and strategies to perform complex mathematical calculations mentally, improving speed and accuracy.

Who is the instructor of 'The Secrets of Mental Math'?

The course is taught by Dr. Benjamin Prater, a mathematics educator known for his engaging teaching style and expertise in mental calculation techniques.

What are some key topics covered in the course?

Key topics include addition, subtraction, multiplication, division, estimation, and techniques for squaring numbers and calculating percentages quickly.

How can mental math skills benefit everyday life?

Mental math skills can enhance problem-solving abilities, improve budgeting skills, boost confidence in handling numbers, and save time in various situations.

Is prior knowledge of mathematics required to take this course?

No, the course is designed for learners of all levels, and it starts with foundational concepts before progressing to more advanced techniques.

What format does the course take?

The course consists of video lectures that are structured into multiple lessons, each focusing on specific mental math strategies and practice exercises.

Can this course help with standardized test preparation?

Yes, the mental math techniques taught in the course can be beneficial for standardized tests that require quick and accurate calculations.

How long is 'The Secrets of Mental Math' course?

The course typically includes around 12 to 24 hours of video content, along with supplementary materials and exercises for practice.

Where can I access 'The Great Courses: The Secrets of Mental Math'?

The course can be accessed through The Great Courses website or via platforms that offer

their content, such as streaming services or educational subscriptions.

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