Think Academy

2025 June AMC 10 Week1 Day 1 - Number Operations

1 $\frac{53^2-47^2}{61^2-39^2}=$ ( ) .

A. $\frac{3}{11}$ B. $\frac{5}{11}$ C. $\frac{6}{11}$ D. $\frac{7}{11}$ E. $\frac{9}{11}$

2 Calculate:

$(2\sqrt{3}-3\sqrt{2})(2\sqrt{3}+3\sqrt{2})+(\sqrt{2}+\sqrt{3})^2+\sqrt{(2-\sqrt{6})^2}=$ _____ .

A. $-4+3\sqrt{6}$ B. $-3+3\sqrt{3}$ C. $-3+3\sqrt{6}$ D. $-2+3\sqrt{2}$ E. $-3+4\sqrt{6}$

3 Given $a+b=\sqrt{\sqrt{1992}+\sqrt{1991}}$, $a-b=\sqrt{\sqrt{1992}-\sqrt{1991}}$, $ab=$ _____ .

A. $\sqrt{1991}$ B. $\frac{1}{2}\sqrt{1991}$ C. $\sqrt{498}$ D. $2\sqrt{498}$ E. 1

4 Simplify : $\sqrt{23-6\sqrt{10+4\sqrt{3-2\sqrt{2}}}}=$ ( ) .

A. $-\sqrt{2}$ B. $1-\sqrt{2}$ C. $3-\sqrt{2}$ D. $4-\sqrt{2}$ E. 2

5 Calculate:

$(\sqrt{2}+\sqrt{3}+\sqrt{5})(\sqrt{2}+\sqrt{3}-\sqrt{5})(\sqrt{2}-\sqrt{3}+\sqrt{5})(-\sqrt{2}+\sqrt{3}+\sqrt{5})=$ _____ .

A. 22 B. 23 C. 24 D. 25 E. 26

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AMC 10 ALGEBRA MODULE BOOTCAMP

Syllabus

- Lesson 1: Advanced Rules of Exponents
- Lesson 2: Sequences and Factorials
- Lesson 3: Algebraic Expressions and Inequalities
- Lesson 4: Equations and Functions

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