

## 2025 June AMC 10 Week1 Day 2 - Exponents & Absolute Values

1  $2[2(2^3)^4]^5 \div \{2[2(2^5)^4]^3\} = ( \quad )$  .

- A. 1                      B. 2                      C.  $2^2$                       D.  $2^3$                       E.  $2^4$

2  $\left(\frac{7}{3}\right)^{1004} \sqrt{\frac{3^{2008} + 15^{2008}}{7^{2008} + 35^{2008}}} = \underline{\hspace{1cm}}$  .

- A. 1                      B.  $\frac{7}{3}$                       C.  $\frac{49}{9}$                       D.  $\frac{3}{7}$                       E.  $\frac{9}{49}$

3 Given  $5^x = 160$ ,  $32^y = 160$ ,  $(-2025)^{(x-1)(y-1)-1} = \underline{\hspace{1cm}}$  .

- A. 1                      B. 2025                      C.  $\frac{1}{2025}$                       D.  $-\frac{1}{2025}$   
E. -2025

4 Given  $a$  is a nonzero real number, what is the value of  $\frac{a}{|a|} + \frac{a^2}{|a^2|} + \frac{a^3}{|a^3|}$ ?

- A. 3 or 1                      B. -3 or 1                      C. 3 or -1                      D. -3 or -1  
E. 3

5 Which expression is equal to  $\sqrt{(x-1)^2} - \sqrt{(x-2)^2}$  for  $|x-1| = 1-x$ ?

- A.  $3-2x$                       B. 1                      C. -1                      D.  $2x-3$                       E.  $2x-1$

# 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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