

At Euclid High School, the number of students taking the AMC10 was 60 in 2002, 66 in 2003, 70 in 2004, 76 in 2005, and 78 in 2006, and is 85 in 2007. Between what two consecutive years was there the largest percentage increase?

- (A) 2002 and 2003 (B) 2003 and 2004 (C) 2004 and 2005
(D) 2005 and 2006 (E) 2006 and 2007

2007 AMC 10 A, Problem #6—

“Find out the percentage increase for each year.”

Solution

Answer (A): Between 2002 and 2003, the increase was

$$\frac{6}{60} = \frac{1}{10} = 10\%.$$

Between the other four pairs of consecutive years, the increases were

$$\frac{4}{66} < \frac{4}{40} = \frac{1}{10}, \quad \frac{6}{70} < \frac{6}{60} = \frac{1}{10}, \quad \frac{2}{76} < \frac{2}{20} = \frac{1}{10}, \quad \text{and} \quad \frac{7}{78} < \frac{7}{70} = \frac{1}{10}.$$

Therefore the largest percentage increase occurred between 2002 and 2003.

Difficulty: Medium

NCTM Standard: Algebra Standard: analyze change in various contexts.

Mathworld.com Classification: Number Theory > Arithmetic > Fractions > Percent