UNIT 17 EXERCISES 6-10

ARITHMETIC

1999

6. What is the sum of the digits of the decimal form of the product $2^{1999} \cdot 5^{2001}$?

(A) 2 **(B)** 4 **(C)** 5 **(D)** 7 **(E)** 10

2004A

6. Let $U = 2 \cdot 2004^{2005}$, $V = 2004^{2005}$, $W = 2003 \cdot 2004^{2004}$, $X = 2 \cdot 2004^{2004}$, $Y = 2004^{2004}$ and $Z = 2004^{2003}$. Which of the following is largest?

(A) $U - V$ **(B)** $V - W$ **(C)** $W - X$ **(D)** $X - Y$ **(E)** $Y - Z$

2009B

6. By inserting parentheses, it is possible to give the expression

$$2 \times 3 + 4 \times 5$$

several values. How many different values can be obtained?

(A) 2 **(B)** 3 **(C)** 4 **(D)** 5 **(E)** 6

2018B

7. What is the value of

$$\log_3 7 \cdot \log_5 9 \cdot \log_7 11 \cdot \log_9 13 \cdots \log_{21} 25 \cdot \log_{23} 27\,?$$

(A) 3 **(B)** $3\log_7 23$ **(C)** 6 **(D)** 9 **(E)** 10

2015B

8. What is the value of $\left(625^{\log_5 2015}\right)^{\frac{1}{4}}$?

(A) 5 **(B)** $\sqrt[4]{2015}$ **(C)** 625 **(D)** 2015 **(E)** $\sqrt[4]{5^{2015}}$