UNIT 17 EXERCISES 1-5

CALCULATE VALUE

1999

1. $1-2+3-4+\cdots-98+99=$

(A) -50 **(B)** -49 **(C)** 0 **(D)** 49 **(E)** 50

2006B

1. What is $(-1)^1+(-1)^2+\cdots+(-1)^{2006}$?

(A) -2006 **(B)** -1 **(C)** 0 **(D)** 1 **(E)** 2006

2010A

1. What is $(20-(2010-201))+(2010-(201-20))$?

(A) -4020 **(B)** 0 **(C)** 40 **(D)** 401 **(E)** 4020

2011B

1. What is
$$\frac{2+4+6}{1+3+5}-\frac{1+3+5}{2+4+6}?$$

(A) -1 **(B)** $\frac{5}{36}$ **(C)** $\frac{7}{12}$ **(D)** $\frac{147}{60}$ **(E)** $\frac{43}{3}$

2012A

1. A bug crawls along a number line, starting at -2. It crawls to -6, then turns around and crawls to 5. How many units does the bug crawl altogether?

(A) 9 **(B)** 11 **(C)** 13 **(D)** 14 **(E)** 15

2015A

1. What is the value of $(2^0-1+5^2+0)^{-1}\times 5$?

(A) -125 **(B)** -120 **(C)** $\frac{1}{5}$ **(D)** $\frac{5}{24}$ **(E)** 25

2015B

1. What is the value of $2-(-2)^{-2}$?

(A) -2 **(B)** $\frac{1}{16}$ **(C)** $\frac{7}{4}$ **(D)** $\frac{9}{4}$ **(E)** 6

2016A

1. What is the value of $\frac{11!-10!}{9!}$?

(A) 99 **(B)** 100 **(C)** 110 **(D)** 121 **(E)** 132

2000

2. $2000(2000^{2000}) =$

(A) 2000^{2001} **(B)** 4000^{2000} **(C)** 2000^{4000}

(D) $4{,}000{,}000^{2000}$ **(E)** $2000^{4{,}000{,}000}$

2008A

2. What is the reciprocal of $\frac{1}{2}+\frac{2}{3}$?

(A) $\frac{6}{7}$ **(B)** $\frac{7}{6}$ **(C)** $\frac{5}{3}$ **(D)** 3 **(E)** $\frac{7}{2}$

2009A

2. Which of the following is equal to $1+\dfrac{1}{1+\frac{1}{1+1}}$?

(A) $\frac{5}{4}$ **(B)** $\frac{3}{2}$ **(C)** $\frac{5}{3}$ **(D)** 2 **(E)** 3

2016A

2. For what value of x does $10^x \cdot 100^{2x} = 1000^5$?

(A) 1 **(B)** 2 **(C)** 3 **(D)** 4 **(E)** 5

2002A

3. According to the standard convention for exponentiation,

$$2^{2^{2^2}} = 2^{\left(2^{\left(2^2\right)}\right)} = 2^{16} = 65{,}536.$$

If the order in which the exponentiations are performed is changed, how many other values are possible?

(A) 0 **(B)** 1 **(C)** 2 **(D)** 3 **(E)** 4

2016B

3. Let $x = -2016$. What is the value of $\Big|\,|\,|x| - x\,| - |x|\,\Big| - x$?

(A) -2016 **(B)** 0 **(C)** 2016 **(D)** 4032 **(E)** 6048

2013A

2011B

5. Let N be the second smallest positive integer that is divisible by every positive integer less than 7. What is the sum of the digits of N?

(A) 3 **(B)** 4 **(C)** 5 **(D)** 6 **(E)** 9