

2013 Q1

1. Danica wants to arrange her model cars in rows with exactly 6 cars in each row. She now has 23 model cars. What is the smallest number of additional cars she must buy in order to be able to arrange her cars in this way?

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

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2008 Q2

2. The ten-letter code BEST OF LUCK represents the ten digits 0–9, in order. What 4-digit number is represented by the code word CLUE?

(A) 8671 (B) 8672 (C) 9781 (D) 9782 (E) 9872

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2004 Q2

2. How many different four-digit numbers can be formed by rearranging the four digits in 2004?

(A) 4 (B) 6 (C) 16 (D) 24 (E) 81

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1992 Q3

3. What is the largest difference that can be formed by subtracting two numbers chosen from the set $\{-16, -4, 0, 2, 4, 12\}$?
- (A) 10 (B) 12 (C) 16 (D) 28 (E) 48

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2002 Q4

4. The year 2002 is a palindrome (a number that reads the same from left to right as it does from right to left). What is the product of the digits of the next year after 2002 that is a palindrome?
- (A) 0 (B) 4 (C) 9 (D) 16 (E) 25
4. (B) The next palindrome is 2112. The product of its digits is $2 \cdot 1 \cdot 1 \cdot 2 = 4$.

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2001 Q4

4. The digits 1, 2, 3, 4 and 9 are each used once to form the smallest possible **even** five-digit number. The digit in the tens place is
- (A) 1 (B) 2 (C) 3 (D) 4 (E) 9

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2004 Q4

4. Lance, Sally, Joy and Fred are chosen for the team. In how many ways can the three starters be chosen?
- (A) 2 (B) 4 (C) 6 (D) 8 (E) 10

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2007 Q4

4. A haunted house has six windows. In how many ways can Georgie the Ghost enter the house by one window and leave by a different window?

(A) 12 (B) 15 (C) 18 (D) 30 (E) 36

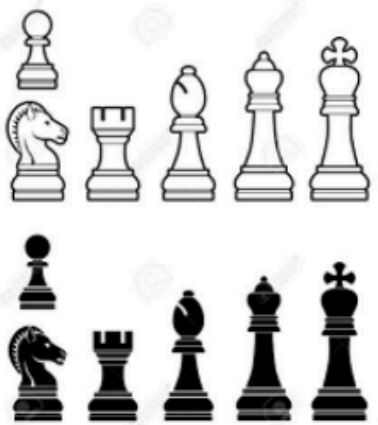


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2015 Q4

4. The Centerville Middle School chess team consists of two boys and three girls. A photographer wants to take a picture of the team to appear in the local newspaper. She decides to have them sit in a row with a boy at each end and the three girls in the middle. How many such arrangements are possible?

(A) 2 (B) 4 (C) 5 (D) 6 (E) 12



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2004 Q5

5. The losing team of each game is eliminated from the tournament. If sixteen teams compete, how many games will be played to determine the winner?

(A) 4 (B) 7 (C) 8 (D) 15 (E) 16

