2025 Summer Workshop Think Academy

Workshop1 - self - Q2

Which of the following numbers has the smallest prime factor? ( ) .

A. 55 B. 57 C. 58 D. 59 E. 61

Workshop1 - in class - Q2

Three friends have a total of 6 identical pencils, and each one has at least one pencil. In how many ways can this happen? ( ) .

A. 1 B. 3 C. 6 D. 10 E. 12

Workshop1 - in class - Q6

Two-thirds of the people in a room are seated in three-fourths of the chairs. The rest of the people are stan ding. If there are 6 empty chairs, how many people are in the room? ( )

A. 12 B. 18 C. 24 D. 27 E. 36

Workshop1 - in class - Q8

The least common multiple of a and b is 12, and the least common multiple of b and c is 15.

What is the least possible value of the least common multiple of a and c? ( ) .

A. 20 B. 30 C. 60 D. 120 E. 180

Workshop1 - in class - Q9

For any positive integer M, the notation M denotes the product of the integers 1 through M.

What is the largest integer n for which 5^n is a factor of the sum $98! + 99! + 100!$? ( ) .

A. 23 B. 24 C. 25 D. 26 E. 27

Workshop2 - self - Q1

The digits1, 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

Workshop2 - self - Q4

Using only pennies, nickels, dimes, and quarters, what is the smallest number of coins Freddie would need so he could pay any amount of money less than a dollar? ( ) .

A. 6 B. 10 C. 15 D. 25 E. 99

Workshop3 - in class - Q13

How many two-digit numbers have digits whose sum is a perfect square? ( )

A. 13 B. 16 C. 17 D. 18 E. 19

Workshop3 - in class - Q14

Let a , b and c be numbers with $0 < a < b < c$. Which of the following is impossible? ( )

A. $a+c<b$ B. $a \cdot b<c$ C. $a+b<c$ D. $a \cdot c<b$

E. $\frac{b}{c}=a$

Workshop3 - in class - Q17

The students in Mr. Neatkin's class took a penmanship test. Two-thirds of the boys and $\frac{3}{4}$ of the girls passed the test, and an equal number of boys and girls passed the test. What is the minimum possible number of students in the class? ( ) .

A. 12 B. 17 C. 24 D. 27 E. 36

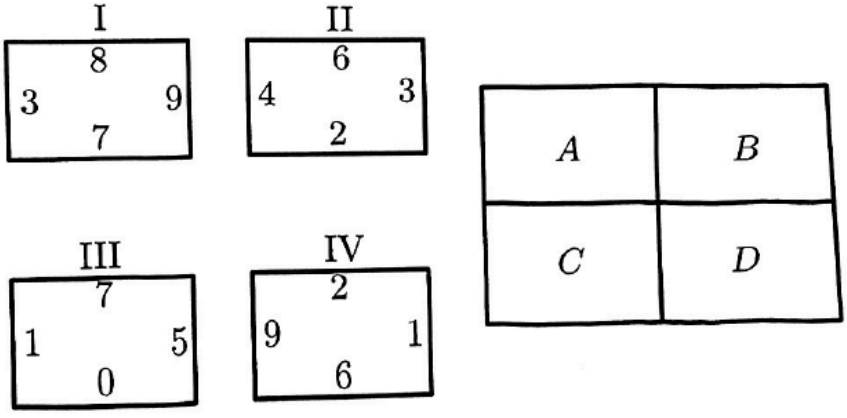
Workshop3 - in class - Q18

The students in Mr. Neatkin's class took a penmanship test. Two-thirds of the boys and $\frac{3}{4}$ of the girls passed the test, and an equal number of boys and girls passed the test. What is the minimum possible number of students in the class? ( ) .

A. 12 B. 17 C. 24 D. 27 E. 36

Workshop4 - in class - Q12

Tiles Ⅰ、Ⅱ、Ⅲ and Ⅳ are translated so one tile coincides with each of the rectangles A、B、C and D. In the final arrangement, the two numbers on any side common to two adjacent tiles must be the same. Which of the tiles is translated to Rectangle C? ( )



A. Ⅰ B. Ⅱ C. Ⅲ D. Ⅳ

E. cannot be determined

Workshop4 - in class - Q15

Harold tosses a nickel four times . The probability that he gets at least as many heads as tails is ( )

A. $\frac{5}{16}$ B. $\frac{3}{8}$ C. $\frac{1}{2}$ D. $\frac{5}{8}$ E. $\frac{11}{16}$

Workshop4 - in class - Q18

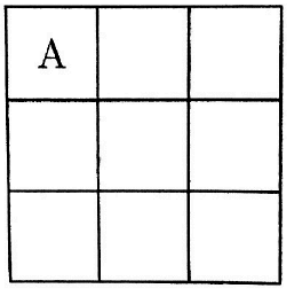
There are 24 four-digit whole numbers that use each of the four digits 2, 4, 5 and 7 exactly once.

Only one of these four-digit numbers is a multiple of another one. Which of the following is it? ( )

A. 5724 B. 7245 C. 7254 D. 7425 E. 7542

Workshop5 - in class - Q13

Three **A**'s, three **B**'s, and three **C**'s are placed in the nine spaces so that each row and column contain one of each letter. If **A** is placed in the upper left corner, how many arrangements are possible? ( )



A. 2 B. 3 C 4 D. 5 E. 6

Workshop5 - in class - Q18

The digits 1, 2, 3, 4, and 5 are each used once to write a five-digit number $PQRST$. The three-digit number PQR is divisible by 4, the three-digit number QRS is divisible by 5, and the three-digit number RST is divisible by 3. What is P? ( ) .

A. 1 B. 2 C. 3 D. 4 E. 5