

# Paper 6

August 8, 2024

1. Compute  $251 \times 102 + 100 \times 24$ .

2. Find prime factorization of 2024.

3. Evaluate  $693 \times 1587 - 692 \times 1587$

4. Express 91 as a sum of two perfect cubes.

5. Find the LCM of 96 and 72.

6. The number  $A4273B$  is a six digit integer in which  $A$  and  $B$  are digits, and the number is divisible by 72. Find the values of  $A$  and  $B$ ?

7. Solve for  $r$ :

$$4r - 5 = 7 - 3r + 3(2 - r) - 28$$

8. What positive number squared equals  $96 \times 486$ ?



9. Solve for  $x$  and  $y$ :

$$21x + 23y = 67$$

$$28x + 13y = 54$$

10. What is the value of  $(10 - 5) \times (9 - 5) \times (8 - 5) \dots (1 - 5)$ ?