1. Find the value/s of A if 74993A32 is divisible by 3.

2. Find the remainder if 957270263 is divided by 125.

3. Find the value of A is 10737A is divisible by 24.

4. Find the value of A+B if 4084AB is divisible by 72.

5. By which smallest number, 136 should be **multiplied** to make it a perfect square?

Directions for questions 6 to 9: Find HCF and LCM in each.
6. 24, 80, 120   7. 180, 225, 300

8. 400, 360, 100   9. 45, 125, 90

10. Find the highest number which gives remainder 3 when it divides 75, 123 and 163.

11. Find the highest number which gives same remainder when it divides 102, 252 and 327.

12. An electronic device makes a beep after every 30 sec. Another device makes a beep after every 50 sec. They beeped together at 10 A.M. The time when they will next make a beep together at the earliest is:

13. What is the smallest number which when increased by 3 is divisible by 16, 18, 30 and 36?

14. Find the least number which when divided by 40, 48 and 60 leaves remainder 20, 28, and 40 respectively.

15. A rectangular courtyard 5.25 meters long 3.78 meters wide is to be paved exactly with square tiles, all of the same size. What is the minimum number of tiles required for the purpose?

16. How many numbers between 400 and 800 are divisible by 15, 18 and 30?

17. How many four digit numbers are divisible by 20, 30 and 45?

18. How many times 'five' appears in first 300 natural numbers?

19. When n is divided by 6, the remainder is 4. When 2n is divided by 6, the remainder is:

20. When a two digit number is reversed, it is increased by 27. How many such two digit numbers are there?

21. Find the unit digit of: 97^36 – 28^42, where x^y means x is raised to the power y.

22. How many zeros are there at the end of 75!?

23. What is the highest power of 6 in 150!?

24. The rightmost non-zero digit of the number 30^1640 is:

25. What are the last 2 digits of 7^2008?

26. Find the remainder when 87^101 is divided by 17?

27. A number is formed by writing first 50 natural numbers side by side without any space. What is the remainder, if this number is divided by 9?

28. A number when divided by 3, 5 and 6 successively leaves remainders of 1, 3 and 2 respectively. Find the remainders if its smallest possible value is divided successively by 6, 5 and 3.

29. When a certain two-digit number is added to another two digit number having the same digits in reverse order, the sum is a perfect square. How many such two-digit numbers are there?

30. LCM of two numbers is ab^3, where a and b are prime numbers. If one of the numbers is b^3, then which of the following cannot be the other number?
(A) ab^3 (B) ab   (C) ab^2 (D) None of these

31. Find number of factors, number of odd factors and number of even factors of each of the following:
a) 240   b) 135   c) 144   d) 900   e) 576

32. If a number N has 11 factors, find number of factors of N^2.

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