Paper 3

July 18, 2024

1. Calculate $11^3 + 12^3$.

2. If $x = 10$ and $y = -10$, then what is the value of $x^2 + y^2 + 2xy$?
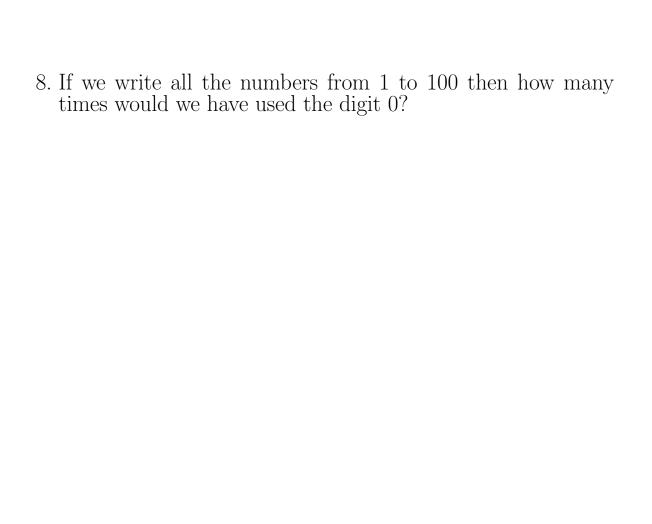
3. Solve for x: $12x + 14 = 19x$.

4. Find x and y such that

$$2x + y = 4$$
$$x + y = 3$$

5. Find LCM of 81 and 162.

6. Find the smallest k such that LCM of 20, 30 and k is 300.

7. There is a circular track. Kartikeya and Keshav start running on the track together. Kartikeya takes 3 minutes to complete one round of the track, while Keshav takes 5 minutes to complete one round of the track. After how long will Kartikeya and Keshav meet at the starting point?

8. If we write all the numbers from 1 to 100 then how many times would we have used the digit 0?

9. Inba Selvaraj walks 5 blocks in 7 minutes and 30 seconds. How many blocks will Inba walk in 12 minutes?

10. $44 \times 32 = 64 \times \square$