

Paper 7

August 14, 2024

1. Compute $111^2 - 11^2 - 1^2$.

2. Find HCF of 240 and 320.

3. Express 25 as a sum of two perfect squares.

4. If x is -4 , what is the value of $-2x^3 - 3x^2$.

5. Simplify $(x + y)^2 - (x - y)^2$

6. Kartik adds up all the even numbers from 2 to 100. Keshav adds up all numbers from 1 to 50. What is the result when Kartik's sum is divided by Keshav's sum.

7. Solve for r :

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

8. A two digit number is three times the sum of its digits. If 45 is added to the number, its digits get reversed. What is the number?

9. What is the greatest odd factor of 12024?

10. What is the smallest prime factor of $11^7 + 7^5$?