

DISCRETE

December 11, 2023

1. Which of the following is not an A.P.?
(A) $-1.2, 0.8, 2.8, \dots$
(B) $3, 3 + \sqrt{2}, 3 + 2\sqrt{2}, 3 + 3\sqrt{2}, \dots$
(C) $\frac{4}{3}, \frac{7}{3}, \frac{9}{3}, \frac{12}{3}, \dots$
(D) $\frac{-1}{5}, \frac{-2}{5}, \frac{-3}{5}, \dots$
2. Find the sum of the first 100 natural numbers.
3. The LCM of two numbers is 182 and their HCF is 13. If one of the numbers is 26, find the other.
4. Show that $5 + 2\sqrt{7}$ is an irrational number, where $\sqrt{7}$ is given to be an irrational number.
5. Find the Sum:
$$(-5) + (-8) + (-11) + \dots + (-230)$$
6. Use Euclid Division Lemma to show that the square of any positive integer is either of the form $3q$ or $3q + 1$ for some integer q .