ARCHITA EDUCENTER

CLASS-X MATHS TEST

1. The sum of the 5th and 9th terms of an A.P is 30. If its 25th term is three times its 8th term, find the A.P.
2. The sum of the first three terms of an A.P is 33. If the product of the first and the third terms exceeds the seconds term by 29, find the A.P.
3. The 17th term of an A.P . is 5 more than twice its 8th term. If the 11th of the A.P IS 43, Find the nth term.
4. The first term of an A.P IS -5 and the last term is 45.if the sum of the terms of the A.P IS 120 then ,find the number of terms and the common difference.
5. A dealer in Delhi buys an article for Rs. 16000 from a wholesaler in Delhi . he sells the article to a consumer in Rajasthan at a profit of 25%. If the rate of GST is 5%, find :
   (i)   The tax (under GST) paid by the wholesaler to governments.
   (ii)   The tax (under GST) paid by the dealer to the government.
   (iii)   The amount which the consumer pay for the article.
6. Kiran purchases an article for Rs. 5310 which includes 10% rebate on the marked price and 18% tax (under GST) On the remaining price .find the marked price of the article.
7. Mukerjee purchases a movie camera for Rs.25488, which includes 10% rebate on the list price and 18% tax (under GST) on the remaining price. Find the marked price of the camera.
8. The marked price of an articles is Rs. 7500. A shopkeeper buys the articles from a wholesaler at some discount and sells it to a consumer at the marked price.the sales are intra- state and the rate of GST is 12%. If the shopkeeper pays Rs. 90 as tax (under GST) to the state government, find: (i) the amount of discount.

        (ii) the price inclusive of tax (under GST) of the article which the shopkeeper paid to the wholesaler.

9. Prove $\dfrac{\tan A + \sin A}{\tan A - \sin A} = \dfrac{\sec A + 1}{\sec A - 1}$.

10. Prove $\dfrac{\cos A}{1 - \sin A} + \dfrac{\cos A}{1 + \sin A} = 2 \sec A$.

11. Prove $\dfrac{1}{\sin A + \cos A + 1} + \dfrac{1}{\sin A + \cos A - 1} = \sec A + \csc A$.

12. Prove $\tan A + \cot A = \sec A \csc A$.