

Date 10-05-2016

Maths-Test 3

Time- 40 min

Class10th

M .Marks- 20

ICSE



1. If $A = \begin{bmatrix} 1 & 4 \\ 2 & 3 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & 2 \\ 3 & 1 \end{bmatrix}$, find $3A + 4B$. and AB

2. Prove the following identity : $\sin^4 A + \cos^4 A = 1 - 2\sin^2 A \cos^2 A$

3. If $2 \sin A - 1 = 0$, show that $\sin 3A = 3\sin A - 4\sin^3 A$

4. Work done by $(x-3)$ men in $(2x+1)$ days and the work done by $(2x+1)$ men in $(x+4)$ days are in the ratio 3:10. Find the value of x .

Three Marks Each

5. If $A = \begin{bmatrix} 1 & -2 \\ 2 & -1 \end{bmatrix}$ and $B = \begin{bmatrix} 3 & 2 \\ -2 & 1 \end{bmatrix}$ Find $2B - A^2$

6. The monthly pocket money of Ravi and Sanjeev are in the ratio 5:7. Their expenditures are in the ratio 3:5. If each saves Rs. 80 every month, find their monthly pocket money.

7. Prove the following identities : $\sqrt{\frac{1-\cos A}{1+\cos A}} = \frac{\sin A}{1+\cos A}$

8. If $x = \frac{\sqrt{a+1} + \sqrt{a-1}}{\sqrt{a+1} - \sqrt{a-1}}$, using properties of proportion show that $x^2 - 2ax + 1 = 0$.