

SuperGrads Study Material

Part of the most Comprehensive Classroom Training, Prep Content & Test Series across the Nation.

QUANTITATIVE TECHNIQUES



TRIGONOMETRY - FORMULAS

1. $\sin \theta * \sin (60 - \theta) \sin (60 + \theta) = \frac{1}{4}(\sin 3\theta)$
2. $\cos \theta * \cos (60 - \theta) \cos (60 + \theta) = \frac{1}{4}(\cos 3\theta)$
3. $\tan \theta * \tan (60 - \theta) \tan (60 + \theta) = \tan 3\theta$
4. $\tan \theta + 2 \tan 2\theta + 4 \tan 4\theta + 8 \cot 8\theta = \cot \theta$
5. $\sin (A+B) * \sin (A-B) = \sin^2 A - \sin^2 B$
6. $\cos (A+B) * \cos (A-B) = \cos^2 A - \sin^2 B$
7. If $A+B = 45^\circ$ or 225°
 $(1+\tan A)(1+\tan B) = (1-\cot A)(1-\cot B) = 2$
8. If $A+B = 135^\circ$ or 315°
 $(1-\tan A)(1-\tan B) = (1+\cot A)(1+\cot B) = 2$
9. If $A+B+C = 180^\circ$
 $\tan A + \tan B + \tan C = \tan A * \tan B * \tan C$
10. if $A+B+C = 180^\circ$
 $\cot A * \cot B + \cot B * \cot C + \cot C * \cot A = 1$
11. if $A+B+C = 90^\circ$
 $\cot A + \cot B + \cot C = \cot A * \cot B * \cot C$
12. if $A+B+C = 90^\circ$
 $\tan A * \tan B + \tan B * \tan C + \tan C * \tan A = 1$
13. $\tan \theta + \cot \theta = 2 \operatorname{cosec} 2\theta$
14. $\cot \theta - \tan \theta = 2 \cot 2\theta$
15. if $A+B = 60^\circ$
 $\cos^2 A + \cos^2 B - \cos A * \cos B = \frac{3}{4}$
16. if $A+B = 60^\circ$
 $\sin^2 A + \sin^2 B + \sin A * \sin B = \frac{3}{4}$
17. if $A-B = 60^\circ$

$$\cos^2 A + \cos^2 B + \cos A * \cos B = \frac{3}{4}$$

18. if $A - B = 60^\circ$

$$\sin^2 A + \sin^2 B - \sin A * \sin B = \frac{3}{4}$$

$$19. \cos^3 \theta + \cos^3 (120 - \theta) + \cos^3 (120 + \theta) = \frac{3}{4} (\cos 3\theta)$$

$$20. \tan \theta + \tan (60 + \theta) + \tan (120 + \theta) = 3(\tan 3\theta)$$

$$21. \cos \theta + \cos (120 - \theta) + \cos (120 + \theta) = 0$$

$$22. \cos^2 \theta + \cos^2 (120 - \theta) + \cos^2 (120 + \theta) = \frac{3}{2}$$