



VERIFICA DI MATEMATICA
CLASSI 2^A – 26 Maggio 2008

COGNOME _____ NOME _____

Verifica le seguenti identità:

1. $(\operatorname{sen} \alpha + \cos \alpha)^2 - 1 = 2 \operatorname{sen} \alpha \cos \alpha$ _____/1,25
2. $(\operatorname{ctg} \alpha - \cos \alpha) \operatorname{tg} \alpha = 1 - \operatorname{sen} \alpha$ _____/1,75
3. $(1 + \operatorname{tg}^2 \alpha) (1 - \operatorname{sen}^2 \alpha) = 1$ _____/2,25
4. $\cos^2 \alpha \operatorname{tg}^2 \alpha + \operatorname{sen}^2 \alpha \operatorname{ctg}^2 \alpha = 1$ _____/2
5. $(\operatorname{tg} \alpha + \operatorname{ctg} \alpha) \operatorname{sen} \alpha = \frac{1}{\cos \alpha}$ _____/2,5
6. $\frac{1}{2 - \operatorname{sen}^2 \alpha} = \frac{1 + \operatorname{tg}^2 \alpha}{2 + \operatorname{tg}^2 \alpha}$ _____/2,75
7. $\operatorname{sen}^4 \alpha + \cos^4 \alpha = 1 - 2 \operatorname{ctg}^2 \alpha \operatorname{sen}^4 \alpha$ _____/3
8. $\operatorname{sen}^2 \alpha + \operatorname{sen}^2 \alpha \cos^2 \alpha + \cos^4 \alpha = 1$ _____/1,5

Semplifica le seguenti espressioni, usando le formule degli archi associati:

9. $\frac{\operatorname{sen}(\pi - \alpha) \cos\left(\frac{\pi}{2} + \alpha\right)}{\operatorname{sen}(-\alpha)} + \frac{\operatorname{sen}\left(\frac{\pi}{2} + \alpha\right) \cos\left(\frac{\pi}{2} - \alpha\right)}{\cos(\pi + \alpha)}$ _____/3,5
10. $\frac{\operatorname{sen}(-\alpha) + \operatorname{sen}(\pi - \alpha) + \operatorname{sen}(\pi + \alpha)}{\cos(-\alpha) + \cos(\pi - \alpha) + \cos(\pi + \alpha)}$ _____/3,5
11. $\frac{\operatorname{sen}(-\alpha) + \cos(\pi - \alpha) - \operatorname{tg}(\pi + \alpha)}{\operatorname{tg}(\pi - \alpha) - \cos\left(\frac{\pi}{2} - \alpha\right) - \cos(-\alpha)}$ _____/3,5
12. $\frac{\operatorname{sen}\left(\frac{\pi}{2} - \alpha\right) + \cos(-\alpha) + \operatorname{sen}(2\pi - \alpha) + \cos\left(\frac{\pi}{2} - \alpha\right)}{\cos\left(\frac{\pi}{2} + \alpha\right) + \operatorname{sen}(-\alpha)}$ _____/3,5

Calcola il valore delle seguenti espressioni:

13. $\sqrt{3} \cos \frac{\pi}{3} - 3 \cos \frac{7}{6} \pi + 2 \operatorname{tg} \frac{5}{3} \pi + \sqrt{2} \operatorname{sen} \frac{3}{4} \pi$ _____/2,5

14. $\operatorname{tg}^2 \frac{7}{6} \pi + \operatorname{sen} \frac{3}{4} \pi \cdot \cos \frac{11}{4} \pi - \frac{1}{3} \cos \frac{4}{3} \pi$ _____/2,5

15. $2 \operatorname{sen} \frac{5}{6} \pi + 4 \cos \frac{5}{6} \pi \cdot \operatorname{sen} \frac{2}{3} \pi - 2 \operatorname{tg} \frac{3}{4} \pi + \operatorname{ctg} \frac{5}{6} \pi$ _____/3

16. $\operatorname{tg} \frac{27}{4} \pi - \operatorname{sen} \frac{33}{6} \pi + \cos \frac{45}{4} \pi - \operatorname{tg} \frac{23}{3} \pi + \operatorname{ctg} \frac{29}{6} \pi + \operatorname{sen} \frac{17}{4} \pi$ _____/3,5

Totale punti 42,5. Sufficienza con punti 23,1.

BUON LAVORO!!!