Precorso di Matematica Generale - Esercizi 6

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Basandosi sulla sola definizione di logaritmo, calcolare i seguenti logaritmi

1. $\log_2 8$. [3]
2. $\log_2 \frac{1}{32}$. [−5]
3. $\log_2 0.25$. [−2]
4. $\log_9 3$. $\left[\frac{1}{2}\right]$
5. $\log_8 128$. $\left[\frac{7}{3}\right]$
6. $\log_3 \frac{1}{9}$. [−2]
7. $\log_{\frac{2}{5}} \frac{25}{4}$. [−2]
8. $\log_x x^2$. [2]
9. $\log_a \frac{1}{\sqrt{a}}$. $\left[-\frac{1}{2}\right]$
10. $\log_{\sqrt{3}} 243$. [10]
11. $\log_{0.5} 0.25$. [2]

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Risolvere le seguenti equazioni

1. $\log_2 x = 3$. $[8]$
2. $\log_2 x = -\frac{2}{3}$. $\left[\frac{1}{\sqrt[3]{4}}\right]$
3. $\log_7 x = -2$. $\left[\frac{1}{49}\right]$
4. $\log_{\frac{1}{2}} x = 2$. $\left[\frac{1}{4}\right]$
5. $\log_{\sqrt{a}} x = 2$. $[a]$
6. $\log_{\sqrt{3}} x = \frac{4}{3}$. $\left[\sqrt[3]{9}\right]$
7. $\log_{\sqrt{2}} x = \frac{2}{3}$. $\left[\sqrt[3]{2}\right]$
8. $\log_a x = a$. $[a^a]$

Risolvere le seguenti equazioni

1. $2^x = \frac{1}{8}$. $[-3]$
2. $9^{-2x} = \frac{1}{81}$. $[1]$
3. $4^x = 8$. $\left[\frac{3}{2}\right]$
4. $8^{\sqrt{x+1}} = 64$. $[3]$
5. $\left(\frac{3}{4}\right)^x = \left(\frac{4}{3}\right)^7$. $[-7]$
6. $4^{x^2-6} = 64$. $[\pm 3]$
7. $2^x = 3^x$. $[0]$
8. $3^x = 5$. $[\log_3 5]$
9. $4^{x+1} = 7$. $[\log_4 7 - 1]$