

Esercizi del Corso di Recupero Ofa di Matematica

1 Terza Lezione:

Semplificare le seguenti espressioni:

1.

$$2^5 \cdot 2^3$$

2.

$$\frac{25}{5^3} \frac{10^2}{4} \frac{4^2}{16^2}$$

3.

$$2\sqrt{2} + \sqrt{18} + \sqrt{50} - \sqrt{8}$$

4.

$$\sqrt[3]{81a^4} - \sqrt[3]{24ab^3}$$

5.

$$(2\sqrt{3} - 5\sqrt{2})^2 - \frac{\sqrt{6} + \sqrt{3}}{2\sqrt{2} + 2} - \frac{15}{\sqrt{3}} (\sqrt{3} - 4\sqrt{2})$$

6.

$$\frac{3}{\sqrt{2}}$$

7.

$$\frac{2}{3 - \sqrt{5}}$$

8.

$$\frac{\sqrt{x} - \sqrt{x-3}}{3}$$

9.

$$\left(\frac{11\sqrt{2}}{3\sqrt{5} - 2\sqrt{2}} \right)^2$$

10.

$$\log(4) + \log\left(\frac{1}{16}\right) - \log\left(\frac{1}{8}\right)$$

11.

$$\log_2(4) + \frac{1}{2} \log_2(9)$$

12.

$$\log_{16} \left(\frac{\sqrt[4]{2} \sqrt[5]{4}}{256} \right)$$

13.

$$\ln(a+b) - \frac{1}{2} \ln(a-b) + 3 \ln a$$

Risolvere le seguenti equazioni esponenziali e logaritmiche:

1.

$$2^x = 16\sqrt{2}$$

2.

$$3^{\sqrt{x}} = 243$$

3.

$$5 \cdot 2^x - 18 = 2^{x-1}$$

4.

$$5^x - 12 = 0$$

5.

$$3^{x+1} = 12$$

6.

$$\log(x-2) - \log(x-3) = \log 4$$

7.

$$\log(x+1) + \log(x-1) = 0$$

8.

$$\log_3(3x+2) = \log_9(4x+5)$$

9.

$$\log_{17}(x-2) = 0$$