

Esercitazione sulle equazioni esponenziali

Esercizi di base

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|---|---|
| 1. $2^{3x-1} = 4^{1-x} \rightarrow 3x-1 = 2(1-x)$ | $S = \left\{ \frac{3}{5} \right\}$ |
| 2. $\left(\frac{3}{2} \right)^{x^2-x} = \frac{9}{4} \rightarrow x^2 - x - 2 = 0$ | $S = \{-1; 2\}$ |
| 3. $2^{1-x^2} = \left(\frac{1}{2} \right)^x \rightarrow x^2 - x - 1 = 0$ | $S = \left\{ \frac{1-\sqrt{5}}{2}; \frac{1+\sqrt{5}}{2} \right\}$ |
| 4. $\frac{1}{2^{3-x}} = 8^{\frac{x+2}{3}}$ | $S = \left\{ -\frac{5}{2} \right\}$ |
| 5. $3^{2x+1} = 27$ | $S = \{1\}$ |
| 6. $3^{1-x} = 81$ | $S = \{-3\}$ |
| 7. $2^{1-2x} = \frac{1}{2^{x+2}}$ | $S = \{3\}$ |
| 8. $2^{x^2+x} = 64$ | $S = \{-3; 2\}$ |
| 9. $2^{x-2} = \frac{1}{4}$ | $S = \{0\}$ |
| 10. $3^{x^2-x-2} = 1$ | $S = \{-1; 2\}$ |
| 11. $\left(\frac{3}{2} \right)^{x-2} = \frac{2}{3}$ | $S = \{1\}$ |
| 12. $2^{1-3x} = 4^{x+1}$ | $S = \left\{ -\frac{1}{5} \right\}$ |
| 13. $\left(\frac{3}{4} \right)^{2-x} = \frac{27}{64}$ | $S = \{-1\}$ |
| 14. $\left(\frac{1}{2} \right)^{x^2+x} = \frac{1}{2^{-x}}$ | $S = \{-2; 0\}$ |
| 15. $2^{x^2-1} = 4^{3-x}$ | $S = \{-1-2\sqrt{2}; -1+2\sqrt{2}\}$ |
| 16. $\left(\frac{1}{4} \right)^{x+\frac{1}{2}} = 2^{-x+3}$ | $S = \{-4\}$ |
| 17. $2^{x^2-x-12} = 8^{3-x}$ | $S = \{-1-\sqrt{22}; -1+\sqrt{22}\}$ |
| 18. $\frac{2^x-1}{3^x+1} = 0$ | $S = \{0\}$ |
| 19. $\frac{5^{x^2-1}-125}{3^{3-x}-3} = 0$ | $S = \{-2\}$ |
| 20. $\frac{3^{x^2}-3^{-x}}{\sqrt{3x+1}-1} = 0$ | $S = \emptyset$ |