

College Algebra Worksheet (5)

Solve Exponential Equations

Solve the exponential equations

1. $\left(\frac{1}{2}\right)^{6-x} = 32$

2. $3^x = 9^{x^2-x}$

3. $8^{2x}\left(\frac{1}{4}\right)^{x-2} = 4^{-x}\left(\frac{1}{2}\right)^{2-x}$

4. $\sqrt{16^x} = \left(\frac{1}{2}\right)^{x^2-1}$

$$5. 10^{2 \log(x^{\frac{1}{3}})} = x$$

$$6. 16^x = \left(\frac{1}{2}\right)^2 8^{2x-1}$$

$$7. -3e^{2x} + 5e^x = 2$$

$$8. 2^{\sqrt{x}} = \frac{1}{\left(\frac{1}{2}\right)^{-2}}^{-x}$$

$$9. 2^x - 6(2^{-x}) = 6$$

10. $5^{x+1} = 100(3^x)$

11. $\frac{e^x - e^{-x}}{2} = 3$