



Logarithms - Solve Log Equation (Fraction Base)

1 Solve the following logarithm

$$\log_{\frac{1}{9}} \frac{1}{81} = x$$

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|---|----------|---|----------|
| A | $x = 10$ | B | $x = -4$ |
| C | $x = 5$ | D | $x = 7$ |
| E | $x = 0$ | F | $x = 2$ |

2 Solve the following logarithm

$$\log_{\frac{1}{2}} \frac{1}{16} = x$$

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|---|----------|---|---------|
| A | $x = 1$ | B | $x = 4$ |
| C | $x = 12$ | D | $x = 8$ |
| E | $x = -2$ | F | $x = 0$ |

3 Solve the following logarithm

$$\log_{\frac{1}{10}} \frac{1}{10,000} = x$$

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|---|---------|---|----------|
| A | $x = 6$ | B | $x = 13$ |
| C | $x = 8$ | D | $x = 7$ |
| E | $x = 4$ | F | $x = -4$ |

4 Solve the following logarithm

$$\log_{\frac{1}{4}} \frac{1}{16} = x$$

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|---|----------|---|----------|
| A | $x = 2$ | B | $x = -5$ |
| C | $x = 10$ | D | $x = -4$ |
| E | $x = 6$ | F | $x = -3$ |

5 Solve the following logarithm

$$\log_{\frac{1}{8}} \frac{1}{64} = x$$

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|---|----------|---|----------|
| A | $x = -1$ | B | $x = -3$ |
| C | $x = 6$ | D | $x = 2$ |
| E | $x = 11$ | F | $x = -5$ |

6 Solve the following logarithm

$$\log_{\frac{1}{10}} \frac{1}{100} = x$$

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|---|----------|---|----------|
| A | $x = 2$ | B | $x = -8$ |
| C | $x = 0$ | D | $x = -6$ |
| E | $x = -7$ | F | $x = -1$ |

7 Solve the following logarithm

$$\log_{\frac{1}{6}} \frac{1}{216} = x$$

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|---|---------|---|----------|
| A | $x = 1$ | B | $x = 7$ |
| C | $x = 9$ | D | $x = 4$ |
| E | $x = 3$ | F | $x = -5$ |

8 Solve the following logarithm

$$\log_{\frac{1}{5}} \frac{1}{25} = x$$

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|---|----------|---|----------|
| A | $x = -3$ | B | $x = -2$ |
| C | $x = 8$ | D | $x = 0$ |
| E | $x = 2$ | F | $x = -5$ |