EduSahara™ Assignment

Name : Solving Logarithmic Equations

Chapter : Real Numbers

Grade : SSC Grade X



1. Find the value of $x$ if $\log_x 16 = 4$

   (i) (-1) (ii) 1 (iii) 5 (iv) 2 (v) 3

2. Find the value of $x$ if $\log_3 x = 3$

   (i) 26 (ii) 27 (iii) 30 (iv) 28 (v) 25

3. Find the value of $x$ if $\log_4 16 = x$

   (i) 2 (ii) 0 (iii) 1 (iv) 3 (v) 4

4. Find the value of $x$ if $\log_{\sqrt{4}}(9x+3) = 2$

   (i) $\frac{1}{3}$ (ii) $\frac{1}{11}$ (iii) $\frac{1}{9}$ (iv) $(\frac{-1}{9})$ (v) $\frac{1}{7}$

5. Find the value of $x$ if $\log_x \frac{1}{4} = -2$

   (i) 2 (ii) 3 (iii) (-1) (iv) 4 (v) 1

6. Find the value of $x$ if $\log(x+7) + \log(x-7) = \log 6$

   (i) $(\sqrt{55}, (-55))$ (ii) $(\sqrt{55}, (-\sqrt{55}))$ (iii) $(55, (-\sqrt{55}))$ (iv) $(55, (-55))$

7. Find the value of $x$ if $\log_8(x+7) - \log_8(x-7) = 1$

   (i) 10 (ii) 7 (iii) 11 (iv) 8 (v) 9

8. Find the value of $x$ if $\log_6(x^2-28) = 2$

   (i) $(8, (-7))$ (ii) $(9, (-7))$ (iii) $(9, (-8))$ (iv) $(8, (-8))$

9. Solve $\frac{\log x}{\log 7} = \frac{\log 81}{\log \frac{1}{9}}$

   (i) $\frac{1}{51}$ (ii) $\frac{1}{47}$ (iii) $(\frac{-1}{49})$ (iv) $\frac{1}{49}$ (v) $\frac{3}{49}$

10. If $\frac{log(x^2+16)}{log\,2x^2} = 1$, find x

(i) (-4,4) (ii) (-1,4) (iii) (-4,3) (iv) (-3,5) (v) (3,-4)

## Assignment Key

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|---|---|---|---|---|---|
| 1) (iv) | 2) (ii) | 3) (i) | 4) (iii) | 5) (i) | 6) (ii) |
| 7) (v) | 8) (iv) | 9) (iv) | 10) (i) | | |