EduSahara™ Assignment

Name : Solving Logarithmic Equations

Chapter : Real Numbers

Grade : SSC Grade X

1. Find the value of x if $\log_x 625 = 4$

   (i) 2 (ii) 6 (iii) 5 (iv) 7 (v) 4

2. Find the value of x if $\log_5 x = 3$

   (i) 124 (ii) 128 (iii) 126 (iv) 122 (v) 125

3. Find the value of x if $\log_5 25 = x$

   (i) 1 (ii) 5 (iii) 0 (iv) 2 (v) 3

4. Find the value of x if $\log_{\sqrt{3}}(-4x-7) = 2$

   (i) $(\frac{-9}{4})$ (ii) $(\frac{-5}{2})$ (iii) -3 (iv) $(\frac{-3}{2})$ (v) $(\frac{-7}{2})$

5. Find the value of x if $\log_x \frac{1}{25} = -2$

   (i) 6 (ii) 4 (iii) 3 (iv) 7 (v) 5

6. Find the value of x if $\log(x+8) + \log(x-8) = \log 9$

   (i) $(73, (-\sqrt{73}))$ (ii) $(\sqrt{73}, (-\sqrt{73}))$ (iii) $(\sqrt{73}, (-73))$ (iv) $(73, (-73))$

7. Find the value of x if $\log_8(x+8) - \log_8(x-8) = 1$

   (i) $\frac{72}{7}$ (ii) $\frac{52}{5}$ (iii) $\frac{92}{9}$ (iv) $\frac{74}{7}$ (v) 10

8. Find the value of x if $\log_4(x^2-65) = 2$

   (i) $(9, (-9))$ (ii) $(10, (-9))$ (iii) $(10, (-8))$ (iv) $(9, (-8))$

9. Solve $\frac{\log x}{\log 5} = \frac{\log 81}{\log \frac{1}{9}}$

(i) $(\frac{-1}{25})$ (ii) $\frac{3}{25}$ (iii) $\frac{1}{25}$ (iv) $\frac{1}{23}$ (v) $\frac{1}{27}$

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

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

Assignment Key

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