

1. What is the domain of the following exponential function?

$$y = -3^{x+5} + 6$$

2. Rewrite the following equation in logarithmic form.

$$5^{x+3} = 200$$

3. Rewrite the following equation in exponential form.

$$\log_3 x = y$$

4. What is the domain of the following logarithmic function?

$$y = \log_4(x - 5)$$

5. Rewrite the following expression in expanded form.

$$\log \left(\frac{a^2b}{c^3d^2} \right)$$

6. Rewrite the following expression in condensed form.

$$4 \log x - 2 \log y + 3 \log z$$

7. Solve the following exponential equation.

$$3^{x+4} = 243$$

8. Convert the following angle into radians.

$$240^\circ$$

9. Convert the following angle into degrees.

$$\frac{7\pi}{6}$$

10. Simplify the following trigonometric expression.

$$1 - \sec^2 x$$

Answer Key

1. $(-\infty, \infty)$

2. $\log_5 200 = x + 3$

3. $3^y = x$

4. $(5, \infty)$

5. $2 \log a + \log b - 3 \log c - 2 \log d$

6. $\log \left(\frac{x^4 z^3}{y^2} \right)$

7. $x = 1$

8. $\frac{4\pi}{3}$

9. 210°

10. $-\csc^2 x$