

**SANGAM SKM COLLGE - NADI**  
**YEAR 12 MATHEMATICS 2021 - WORKSHEET 2**

1.	If $a = \log 2$ and $b = \log 5$ , write an expression for <b>log 100</b> in terms of a and b.
2.	Solve : $\log_2 11 = x - 3$
3.	Find the solution set of : (a) $3x(x - 1) = 0$ (b) $2x^2 = 18$
4.	Simplify : (a) $\frac{x+3}{x^2-3^2}$ (b) $\frac{4x}{y} - \frac{x}{3} \div \frac{y}{3}$
5.	A quadratic equation is given as $5x^2 - 6x + 10 = 0$ (i) Calculate the discriminant. (ii) State the nature of the roots.
6.	If the function $f(x) = -x^3 - 3x^2 + bx + 5$ has a remainder of -2 when divided by $x + 2$ , then find the value of b.
7.	Make $m$ the subject of the formula in the equation: $Y = \frac{mT}{q + mn}$
8.	Use quadratic formula $\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ to solve: (a) $2x^2 - 5x - 4 = 0$ (b) $3x^2 + 9 = 20x$