MATHEMATICS HOMEWORK EXERCISES FOR S_2 (All)

Q1. If a=5, b=-4 and c=-3, find the value of $\frac{b^2-ac-bc-c}{3a^2+b^2+c^2}$

Q2. Given that $13040000 = 1.304 \times 10^n$,what is the value of n.

Q3. Simplify by rationalizing the denominator. $\frac{2+5\sqrt{3}}{2-\sqrt{3}}$

Q4. Solve for m in the equation $\left(\frac{1}{27}\right)^m \times 81^{-1} = 243$

Q5. Given that $\frac{6}{3\sqrt{2}-2\sqrt{3}} = a\sqrt{2} + b\sqrt{3}$ find the values of a and b.

Q6. Factorize : a) $50 - 2x^2$

b) $9w^2 + 18w - 7$

Q7. Solve the simultaneous equation : $\begin{cases} 5x - 9y = 1 \\ 4y - 2 = x \end{cases}$

Q8. Find the value of **a** and **b** from $(x-2)(x+3)(x-4) = x^3 - ax^2 - 2bx + 24$

Q9. Find the quotient and the remainder of the division: $x + 2 - 3x^2 - 2x^3$ by $1 + 2x$

Q10. The expression $2x^3 + ax^2 + bx + 6$ is exactly divisible by $x - 2$ and on division by $x + 1$ gives a remainder of -12. Calculate the values of **a** and **b** then factorize the expression completely.