**5th Year Ordinary Level Mathematics Examination – Mr Duffy**

**Please answer all questions in the spaces provided. Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Q1. (a) If $p=-2, q=3 and r=-5$, find the value of each of the following expressions.

(i) $2pq+r$

(ii) $\frac{(3r-p)^{3}}{q-2r}$

(iii) $\sqrt{\frac{pqr}{2p(q-r^{2})}}$

(b) Simplify each of the following expressions

(i) $12x-3+4x+6$

(ii) $y^{2}+11x-3y^{3}+14x-5y^{2}$

(iii) $4ab-3a^{2}b^{2}+6ba+2bac-b^{2}a^{2}$

(c) Multiply out the following terms and simplify your answer fully.

(i) $\left(2x-3\right)(x+4)$

(ii) $\left(3x^{2}+2y^{2}\right)(5x-y)$

(iii)$2x\left(3x^{2}+x-1\right)-x(5x^{2}-x+3)$

Q2. (a) Express as a single fraction $\frac{7x-2}{10}-\frac{2x-1}{5}+\frac{x+3}{2}$

(b) Factorise each of the following expressions

(i) $2xy^{2}+6xy$

(ii) $x^{2}+4x-12$

(iii) $64y^{2}-16x^{2}$

(iv) $2x^{2}-9x+7$

(c) (i) Simplify fully $\frac{144x^{3}z^{6}y}{12x^{2}z^{3}}$

(ii) By factorising appropriately, simplify fully the expression $\frac{x^{2}+x-6}{x^{2}+3x-10}$