

Question One

- (a) Rearrange the formula $P = \frac{3R^2+W}{4W+2}$ to give an expression for W in terms of the other quantities.

(4 marks)

- (b) Solve the equation: $\frac{2(x-1)}{3} - \frac{(x+6)}{4} = 2\frac{1}{2}$

(5 marks)

- (c) Factorise the following **completely**

(i) $a^2 - 9b^4$

(ii) $x^2 - 14x + 49$

(iii) $4cd + 8d^2 - 8cf - 16df$

(7 marks)

- (d) Solve the simultaneous equations:

$$3x + 2y = 10$$

$$x + y = 4$$

using the **substitution** method

(3 marks)

(e) Simplify (i) $\frac{p^2+pv}{9p^2v} \times \frac{3pv^2}{vp+v^2}$

(ii) $\frac{2\ell^2d}{9m} \div \frac{\ell^3}{6m^2d}$

(3 marks)

- (f) Find the quadratic equation whose roots are $2\frac{1}{4}$ and -3 , expressing your answer in the form $ax^2 + bx + c = 0$ where a, b & c are integers.

(3 marks)