Albert Town High School
Mathematics Problem paper

Instruction: Answer all questions. All relevant working must be shown.

1 Solve for x in the following equations

(a) $3x^2 - 7x + 2$

(b) $6x^2 + 17x - 14 = 0$

(c) $3x^2 + 5x = 6$

2 Solve for the named variable in the following

(a) $(3x - 1)(x + 5) = 4x + 3$

(b) $\frac{9}{u} = \frac{u}{4}$

3 Solve the following equation for p

$$\frac{2p}{5} + \frac{5}{p} = 3$$

4 Show by simplifying that

$(2x - 3)(2x + 3) - x^2 + 7(x + 2) \equiv 3x^2 + 7x + 5$

5 The floor of a room is in the shape of a rectangle. The room is c meters long and the width of the room is 2cm less than its length

(a) Write in terms of c (i) the width of the floor
(ii) The area of the floor

(b) If the area of the room is $15cm^2$, write down an equation in c to show this information

(c) Use the equation to find the length and width of the room