**AS Pre-Test B**

**You may NOT use a calculator**

If *ax*2 + *bx* + *c* = 0 then *x* **= **

1. **Expand and simplify:**

(a) (2*x* + 1)(3*x* – 2) **(2 Marks)**

(b) (*y* - 5)2 **(2 Marks)**

2. **Factorise:**

(a) 24*x*2 – 16*x* **(1 Mark)**

(b) *y*2 – 225 **(2 Marks)**

(c) 2*x*2 + *x* – 6 **(2 Marks)**

3. **Simplify:**

(a)  **(2 Marks)** (b) +  **(4 Marks)**

4. **Solve the following equations:**

(a) +  = 3 **(3 Marks)** (b) *p*2 - 22*p* = 0 **(2 Marks)**

5. **Write each of the following as single powers of *x* and y**:

(a) **( 1 Mark)** (b)  **(1 Mark)**

6. **Work out the values of the following, giving your answers as fractions**

(a) 4-2 **(1 Mark)** (b) 1.70 **(1 Mark)** (c)  **(2 Marks)**

7. **Solve the simultaneous equations:** 4*x* - 35y = 3 **(4 Marks)**

*x* - 2y = -3

8. **Rearrange the following equations to make *x* the subject:**

(a) *v*2 = 3u2 - 5b*x* **(2 Marks)**  (b) y =  **(3 Marks)**

9. **Solve** 2*x*2 – 3*x* - 4 = 0 **giving your solutions in surd form** **(4 Marks)**