**Year 12 AS/A level Maths Baseline Test**

**Instructions**

* The time for the test is 1 hour.
* Answer **all** questions.

**Information**

* The total mark for this paper is 48.
* The marks for each question are shown in brackets

-*use this as a guide as to how much time to spend on each question.*

**Advice**

* Read each question carefully before you start to answer it.
* Keep an eye on the time.
* Try to answer every question.
* Check your answers if you have time at the end.

**1** Simplify these expressions.

**a**  **(1 mark)**

**b**  **(1 mark)**

**c**  **(3 marks)**

**2** Solve  **(2 marks)**

**3** Find the value of *x*.

 **(2 marks)**

**4 a** Write  in the form , where *a* is an integer. **(1 mark)**

**b** Expand and simplify . **(2 marks)**

**c** Simplify  giving your answer in the form , where *a*, *b* and *c* are   
rational numbers. **(3 marks)**

**5** The area of a triangle is given as cm2.

The base of the triangle is cm, and the perpendicular height is cm.

Find the values of *p* and *q*. **(4 marks)**

**6** Expand and simplify these expressions.

**a**  **(1 mark)**

**b**  **(2 marks)**

**c**  **(3 marks)**

**7** Fully factorise these expressions.

**a**  **(1 mark)**

**b**  **(1 mark)**

**8** Solve these equations.

**a**  **(1 mark)**

**b**  **(2 marks)**

**c**  **(2 marks)**

**9** Solve these pairs of simultaneous equations.

**a**  **(3 marks)**

**b**  **(3 marks)**

**c**  **(4 marks)**

**10** Solve these inequalities.

**a** 7*x* − 6 ⩽ 8 **(1 mark)**

**b** 3*x* + 2 ⩾ 7*x* − 4 **(2 marks)**

**c** > 0 **(2 marks)**

**11** The function f is defined as 

Find the value of . **(1 mark)**

This is the end of the test.