Write your name, centre number and candidate number in the boxes below.

Surname	Other names

Centre number | | | | | |

Candidate number | | | | |

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The quadratic formula

Time allowed: 55 minutes

Subject code **0580**

Mathematics

Questions from Paper 2 and Paper 4

You must have: a ruler marked in centimetres and millimetres, a protractor, compasses, a pen, an HB pencil and an eraser.
You may use a calculator.

Total marks

/ 45

Instructions

- Answer every question in the space provided on this paper.
- Write in black or dark blue ink. Pencil may be used for diagrams and graphs.
- Fill in your name, centre number and candidate number above.
- Show your working: a correct method can earn marks even if the answer is wrong.
- Unless a question says otherwise, give answers that are not exact to 3 significant figures, and angles in degrees to 1 decimal place.

Information

- This paper has 10 questions worth 45 marks in total.
- The marks for each question or part are shown in brackets, for example [3].

Advice

- Read every question through once before you write anything.
- Use the marks in brackets to judge how long to spend on each part.
- If you finish early, go back and check your working.

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Print at 100% (Actual size) so diagrams keep their real measurements.

1 Solve the equation.

$$x^2 - 8x + 6 = 0$$

Show all your working and give your answers correct to 2 decimal places.

Answer $x =$ ..... or $x =$ ..... [4]

The quadratic formula Click for more variations

2 Solve the equation $x^2 + 5x - 7 = 0$.
You must show all your working and give your answers correct to 2 decimal places.

$x =$ ..... or $x =$ ..... [4]

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3 Solve the equation $2x^2 + 3x - 6 = 0$.
Show all your working and give your answers correct to 2 decimal places.

Answer $x =$ ..... or $x =$ ..... [4]

The quadratic formula Click for more variations

4 Solve the equation.

$$2x^2 + x - 2 = 0$$

Show your working and give your answers correct to 2 decimal places.

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Answer $x =$ ..... or $x =$ ..... [4]

The quadratic formula Click for more variations

5 Solve the equation $3x^2 - 11x + 4 = 0$.
Show all your working and give your answers correct to 2 decimal places.

$x =$ ..... or $x =$ .....[4]

The quadratic formula Click for more variations

6 Solve the equation $5x^2 + 10x + 2 = 0$.
You must show all your working and give your answers correct to 2 decimal places.

$x =$ ..... or $x =$ ..... [4]

The quadratic formula Click for more variations

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7 Use the quadratic formula to solve the equation $3x^2 + 7x - 11 = 0$.
You must show all your working and give your answers correct to 2 decimal places.

$x =$ ..... or $x =$ ..... [4]

The quadratic formula Click for more variations

8 Solve the equation $3x^2 - 2x - 2 = 0$.
Show all your working and give your answers correct to 2 decimal places.

$x =$ ..... or $x =$ ..... [4]

The quadratic formula Click for more variations

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9 The line $y = 4x + 12$ intersects the curve $y = 2x^2 - x - 3$ at point P and point Q.

Find the coordinates of P and Q.
You must show all your working and give your answers correct to 2 decimal places.

(....., ...)

(....., ...)
[6]

Simultaneous equations Click for more variations

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10 Solve.

$$\frac{1}{x} - \frac{2}{x+1} = 3$$

Show all your working and give your answers correct to 2 decimal places.

$x =$ ..... or $x =$ ..... [7]

Solving equations with algebraic fractions Click for more variations

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